

AN ANALYSIS OF THE DEVELOPMENT OF CONTROLLED  
RETAILING SYSTEMS IN THE GREATER S. PAULO  
METROPOLITAN AREA

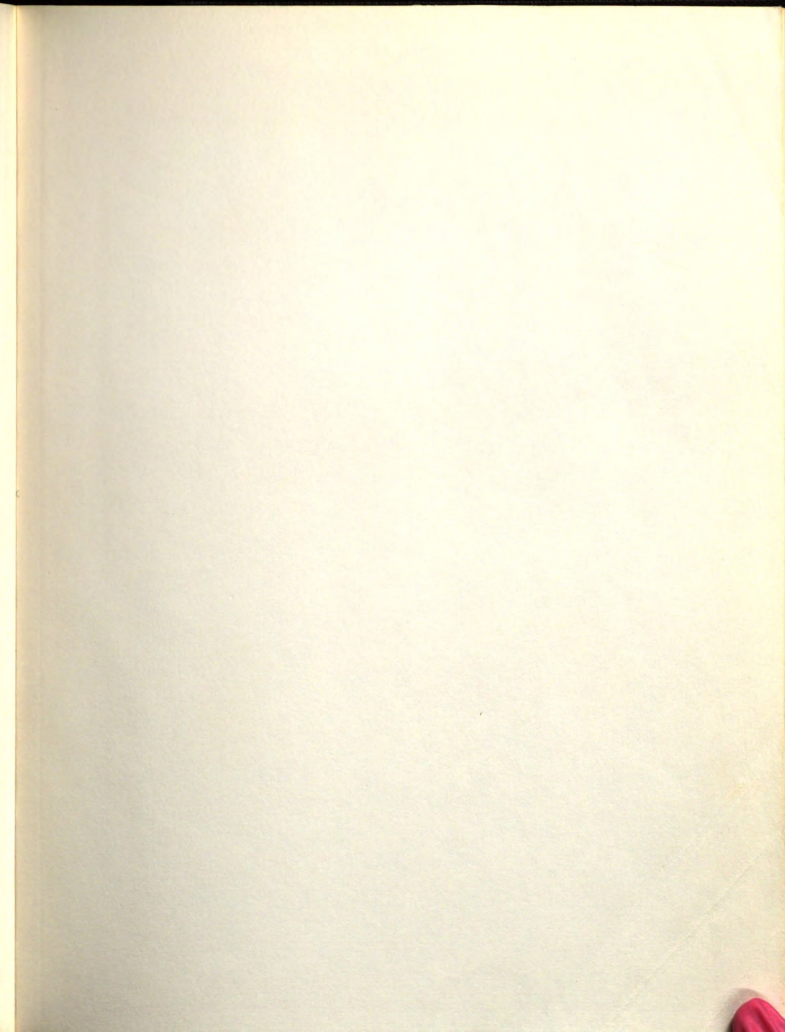
Thesis for the Degree of Ph D.  
MICHIGAN STATE UNIVERSITY  
ALBERTO DE OLIVEIRA LIMA FILHO  
1972



6-21-2011  
45-1  
7-20







## ABSTRACT

### AN ANALYSIS OF THE DEVELOPMENT OF CONTROLLED RETAILING SYSTEMS IN THE GREATER S. PAULO METROPOLITAN AREA

by

Alberto de Oliveira Lima Filho

The development of controlled retailing institutions, particularly shopping centers, in the Greater S. Paulo Metropolitan Area (GSPMA) was examined in this dissertation from three perspectives: (1) from a theoretical point of view, using a systemic conceptual framework; (2) from an explanatory and interdisciplinary perspective, drawing upon contributions from other disciplines and comparative analysis; and (3) a normative perspective utilizing modelling techniques.

The work began with a theoretical discussion of the retailing system, its objectives and activities, its locational patterns and evolutive characteristics. These analyses indicated a definite trend toward decentralization and the emergence of specialized building facilities.

The study then was focused on the retailing system's spatial dimensions, with an emphasis on their relationship to urban systems theory and trade area management techniques.

The Brazilian retailing system and the evolution of its institutions were examined on the basis of the theoretical framework which was

**ABSTRACT**

AN ANALYSIS OF THE DEVELOPMENT OF CONTROLLED RETAILING SYSTEMS IN THE GREATER S. PAULO METROPOLITAN AREA

By

Alberto de Oliveira Lima Filho

The development of controlled retailing institutions, particularly shopping centers, in the Greater S. Paulo Metropolitan Area (GSPMA) was examined in this dissertation from three perspectives: (1) from a theoretical point of view, using a systemic conceptual framework; (2) from an explanatory and interdisciplinary perspective, drawing upon contributions from other disciplines and comparative analysis; and (3) a normative perspective utilizing modelling techniques.

The work began with a theoretical discussion of the retailing system, its objectives and activities, its locational patterns and evolutive characteristics. These analyses indicated a definite trend toward decentralization and the emergence of specialized building facilities.

The study then was focused on the retailing system's spatial dimensions, with an emphasis on their relationship to urban systems theory and trade area measurement techniques.



The Brazilian retailing system and the evolution of its institutions were examined on the basis of the theoretical framework which was developed. The complex interactions among retailing institutions and the GSPMA were explained. This analysis indicated that if the quality of urban life is to be improved there is a need for the relocation of retailing facilities at decentralized points, using modern design features such as the shopping center. A market opportunity analysis was made to evaluate the relative demand potential in the city's forty-eight districts. This procedure gave a clear indication of demand density over space.

The decision-making process concerning investment and location then was examined using modelling techniques. The outcome was the construction of a normative model for shopping center location. This model used cost concepts, capital budgeting techniques, and probabilistic constructs. The model can be applied in practical situations using the preliminary results of the market opportunity analysis made for the GSPMA. In order to provide guidelines for the model's application, a logical flow diagram was prepared. Such a model can be useful to those concerned with the problems of retailing location in larger metropolitan areas.

1972

AN ANALYSIS OF THE DEVELOPMENT OF CONTROLLED  
RETAILING SYSTEMS IN THE GREATER S. PAULO  
METROPOLITAN AREA

By

Alberto de Oliveira Lima Filho

©Copyright 1972

ALBERTO DE OLIVEIRA LIMA FILHO

1972

A DISSERTATION

Submitted to  
Michigan State University  
in partial fulfillment of the requirements  
for the degree of

DOCTOR OF PHILOSOPHY

Department of Marketing and Transportation Administration

1972

57883

DEDICATION

To my father

Justino Alberto de Oliveira Lima

Laureate

©Copyright by  
ALBERTO DE OLIVEIRA LIMA FILHO

1972

## ACKNOWLEDGMENTS

### DEDICATION

This dissertation is dedicated to the memory of my father, who passed away in 1985. His support and encouragement were essential to the completion of this work. I am grateful to the Ford Foundation for the generous grant that made this study possible. To my father, Justice Alberto de Oliveira Lima, for his unwavering support and belief in me.

### in Memoriam

I am grateful to the many people whose academic association and friendship have made a substantial contribution to my career. Professor Léo Gilbert Erickson has guided my academic life since its beginning ten years ago, when he enthusiastically supported my decision to become a professor. As chairman of this dissertation committee, Dr. Erickson worked with great dedication and personal interest. As a direct result of his scholarship, many improvements were introduced into this work. Professor Donald Arthur Taylor, my academic adviser in the doctoral program and a committee member, has given me solid and secure guidance during my course work. He contributed fundamental suggestions concerning marketing and retailing in Brazil. Professor Stanley Charles Hollander stirred my curiosity about retailing theory. Dr. Hollander, also a committee member, provided help concerning the bibliography and the analytical framework. His careful reading of the manuscript was an important factor in its improved quality.



My wife Ada Maria and my son Alberto III, both played a very meaningful role in all phases of the project.

#### ACKNOWLEDGMENTS

They provided understanding, encouragement whenever necessary. My mother, Lydia, was also a strong and constant support.

This dissertation was accomplished with the cooperation of several persons and through a generous grant from the Ford Foundation, which has supported most of my graduate studies.

I am grateful to three scholars whose academic association and friendship have made a substantial contribution to my career. Professor Leo Gilbert Erickson has guided my academic life since its beginning ten years ago, when he enthusiastically supported my decision to become a professor. As chairman of this dissertation committee, Dr. Erickson worked with great dedication and personal interest. As a direct result of his scholarship, many improvements were introduced into this work. Professor Donald Arthur Taylor, my academic adviser in the doctoral program and a committee member, has given me solid and secure guidance during my course work. He contributed fundamental suggestions concerning marketing and retailing in Brazil. Professor Stanley Charles Hollander stirred my curiosity about retailing theory. Dr. Hollander, also a committee member, provided help concerning the bibliography and the analytical framework, his careful reading of the manuscript was an important factor in its improved quality.

My wife Ada Maria and my son Alberto III, both played a very meaningful role in all phases of the project. They provided understanding, help, and encouragement whenever necessary. My mother, Lygia, was also a strong and constant support, not only during the dissertation, but also during the early stages of my life.

Mrs. Elizabeth Marcus did an excellent job in editing this thesis. Her contribution transcended her professional competence, and became a truly personal involvement with my objectives. Miss Lusie Mitchell, a young assistant, contributed a careful and enthusiastic proof-reading of the last draft. Mrs. Elianna De LaRosa typed the originals, sometimes under severe time constraints.

Mrs. Louise Sacha and Mrs. Margaret Cushion also are deserving of my appreciation for their assistance in administrative matters during the doctoral courses.

To all of these, I extend my everlasting gratitude.

|  |     |
|--|-----|
| Theory of Change in the Spatial Location of Retailing Institutions . . . . . | 43  |
| The Shopping Center as a Component of the Retailing System . . . . .         | 54  |
| Spatial Dimensions of the Retailing System . . . . .                         | 98  |
| The Urban System . . . . .   | 100 |
| The Ring Factor . . . . .  | 101 |
| City Structure . . . . .   | 101 |
| The City Fabric . . . . .  | 105 |
| The Retailing System and the Quality of Urban Life . . . . .                 | 116 |
| Retailing Systems Within the Urban Space . . . . .                           | 119 |
| Trade Area Analysis . . . . .  | 122 |
| A Summary of Theories and Concepts . . . . .                                 | 133 |
| The Relevance for Analytical Purposes . . . . .                              | 135 |
| Conclusions . . . . .  | 138 |

# TABLE OF CONTENTS

|  | Page |
|--|------|
| DEDICATION . . . . .                           | ii   |
| ACKNOWLEDGMENTS . . . . .                      | iii  |
| LIST OF TABLES. . . . .                        | viii |
| LIST OF FIGURES . . . . .                      | x    |
| Chapter  |      |
| I. INTRODUCTION AND OBJECTIVES. . . . .        | 1    |
| Forward: The City as the Context for           |      |
| Retailing Adjustments . . . . .                | 1    |
| Background of the Problem. . . . .             | 4    |
| Problem Formulation. . . . .                   | 7    |
| Research Requirements . . . . .                | 11   |
| Analytical Framework . . . . .                 | 12   |
| II. ANALYSIS OF THE RETAILING SYSTEMS. . . . . | 18   |
| Retailing Systems as Component of the          |      |
| Marketing System . . . . .                     | 19   |
| Functional Analysis of the Retailing System.   | 22   |
| Theories of Structural Changes in              |      |
| Retailing Systems. . . . .                     | 28   |
| Theory of Change in the Spatial Location       |      |
| of Retailing Institutions . . . . .            | 43   |
| The Shopping Center as a Component of the      |      |
| Retailing System . . . . .                     | 54   |
| Spatial Dimensions of the Retailing System .   | 98   |
| The Urban System. . . . .                      | 100  |
| The Hinge Factor. . . . .                      | 103  |
| City Structure . . . . .                       | 103  |
| The City Fabric . . . . .                      | 106  |
| The Retailing System and the Quality of        |      |
| Urban Life . . . . .                           | 116  |
| Retailing Systems Within the Urban Space. .    | 119  |
| Trade Area Analysis. . . . .                   | 122  |
| A Summary of Theories and Concepts. . . .      | 133  |
| The Relevance for Analytical Purposes. . .     | 135  |
| Conclusions . . . . .                          | 138  |



| Chapter   | Page |
|---|------|
| III. RETAILING SYSTEMS IN BRAZIL--PATTERNS OF CONTRAST AND EVOLUTIONARY CHARACTERISTICS . . | 157  |
| Contrast Types . . . . .  | 158  |
| The System's Evolution. . . . .   | 166  |
| The Chronology Gap and the Contrast Patterns. . . . .                                       | 182  |
| Greater S. Paulo Metropolitan Area: Urban Structural Evolution. . . . .                     | 187  |
| Retailing in the Greater S. Paulo Metropolitan Area: Problems and Trends .                  | 199  |
| IV. THE SHOPPING CENTER INDUSTRY IN THE GREATER S. PAULO METROPOLITAN AREA . . . . .        | 213  |
| Introduction . . . . .  | 213  |
| Iguatemi Shopping Center: Overall Characteristics . . . . .                                 | 216  |
| Iguatemi Shopping Center: Operational Descriptors. . . . .                                  | 220  |
| Lapa Shopping Center: Overall Characteristics . . . . .                                     | 227  |
| Lapa Shopping Center: Operational Descriptors. . . . .                                      | 231  |
| Center 3: Operational Descriptors. . . . .  | 241  |
| Final Remarks. . . . .  | 245  |
| V. CITY OF S. PAULO MARKET OPPORTUNITY . . . . .  | 252  |
| Introductory Concepts . . . . .   | 252  |
| City of S. Paulo: Urban Area . . . . .  | 254  |
| Districts Demographics. . . . .   | 256  |
| Population Index. . . . .   | 259  |
| Income Index . . . . .  | 262  |
| Car Ownership Index. . . . .  | 265  |
| Composite Index . . . . .   | 268  |
| Modified Composite Index . . . . .  | 275  |
| VI. A NORMATIVE MODEL FOR SHOPPING CENTER LOCATION  | 283  |
| Introduction . . . . .  | 283  |
| Basic Criteria . . . . .  | 284  |
| Investor's Objectives . . . . .   | 286  |
| Retailer's Objectives . . . . .   | 293  |
| Investor and Retailer: Joint Objectives. . . . .  | 299  |
| Shopping Center Sales Potential. . . . .  | 300  |
| Competitive Uncertainty . . . . .   | 303  |
| Decision Tree Analysis. . . . .   | 303  |
| Probabilistic Decision Criterion . . . . .  | 308  |

| Chapter   | Page |
|---|------|
| Land Site Costs . . . . .   | 312  |
| Site Decision Criterion . . . . .   | 313  |
| Model Evaluation. . . . .   | 315  |
| Application Guideline . . . . .   | 316  |
| VII. SUMMARY AND CONCLUSIONS . . . . .  | 323  |
| 1. Introduction . . . . .   | 323  |
| 2. The Analytical Approach . . . . .  | 325  |
| 3. The Greater S. Paulo Metropolitan Area . . . . .                                     | 327  |
| 4. Market Opportunity Analysis . . . . .  | 329  |
| 5. Normative Model . . . . .  | 330  |
| 6. Need for Future Research . . . . .   | 331  |
| 7. Expansion of the Normative Model . . . . .   | 332  |
| 8. Conclusions . . . . .  | 334  |
| BIBLIOGRAPHY . . . . .  | 335  |
| 1. Comparative Chronology--American and Brazilian<br>Retailing Systems . . . . .        | 184  |
| 2. Time Lag in the Development of the U.S. and<br>Brazilian Retailing Systems . . . . . | 184  |
| 3. 1970 GSPMA--Population, Area and Densities . . . . .                                 | 190  |
| 4. City of S. Paulo--Demographic Growth . . . . .                                       | 192  |
| 5. City of S. Paulo--Population 1950-1990 . . . . .                                     | 192  |
| 6. Shopping Center Iguatemi Physical Facilities . . . . .                               | 222  |
| 7. Shopping Center Iguatemi Trade Area Descriptors . . . . .                            | 224  |
| 8. Shopping Center Iguatemi Customer Shopping<br>Behavior and Demographics . . . . .    | 226  |
| 9. Shopping Center Lapa Operational Descriptors . . . . .                               | 232  |
| 10. Shopping Center Lapa Trade Area Descriptors . . . . .                               | 234  |
| 11. Shopping Center Lapa: Shopping Behavior and<br>Demographics . . . . .               | 236  |
| 12. SC-3, Physical Facilities Descriptors . . . . .                                     | 242  |
| 13. SC-3, Trade Area Descriptors . . . . .  | 244  |
| 14. SC-3, Shopping Behavior and Demographics . . . . .                                  | 246  |

| Table |   | Page |
|-------|---|------|
| 20.   | City of Sao Paulo--District Demographics 1970<br>Census | 257  |

# LIST OF TABLES

| Table |  | Page |
|-------|--|------|
| 21.   | Population Index--1970 Districts 1970<br>Population--Distribution--Index             | 260  |
| 22.   | 1970--Income Index--1970 Districts,<br>Income--Income Index                          | 264  |
| 1.    | Shopping Centers in the USA . . . . .  | 65   |
| 2.    | Shopping Center Descriptors Basic<br>Classification Criteria. . . . .                | 78   |
| 3.    | Shopping Center Taxonomy . . . . .   | 88   |
| 4.    | Shopping Sub-Trade Areas . . . . .   | 124  |
| 5.    | Taxonomy of Brazilian Retailing System--1960<br>Coding                               | 162  |
| 6.    | Comparative Chronology--American and Brazilian<br>Retailing Systems. . . . .         | 184  |
| 7.    | Time Lag in the Development of the U.S. and<br>Brazilian Retailing Systems . . . . . | 186  |
| 8.    | 1970 GSPMA--Population, Area and Densities . . . . .                                 | 190  |
| 9.    | City of S. Paulo--Demographic Growth . . . . .                                       | 192  |
| 10.   | City of S. Paulo--Population 1900-1990 . . . . .                                     | 192  |
| 11.   | Shopping Center Iguatemi Physical Facilities . . . . .                               | 222  |
| 12.   | Shopping Center Iguatemi Trade Area Descriptors . . . . .                            | 224  |
| 13.   | Shopping Center Iguatemi Customer Shopping<br>Behavior and Demographics . . . . .    | 226  |
| 14.   | Shopping Center Lapa. Operational Descriptors . . . . .                              | 232  |
| 15.   | Shopping Center Lapa Trade Area Descriptors. . . . .                                 | 234  |
| 16.   | Shopping Center Lapa: Shopping Behavior and<br>Demographics . . . . .                | 236  |
| 17.   | SC-3, Physical Facilities Descriptors. . . . .                                       | 242  |
| 18.   | SC-3, Trade Area Descriptors. . . . .  | 244  |
| 19.   | SC-3, Shopping Behavior and Demographics. . . . .                                    | 246  |

| Table   | Page |
|---|------|
| 20. City of Sao Paulo--District Demographics 1970<br>Census . . . . .   | 257  |
| 21. Population Index S. Paulo--48 Districts 1970<br>Population--Distribution--%--Index . . . . .                              | 260  |
| 22. 1970--Income Index, S. Paulo 48 Districts,<br>District Total Household Index--% Distribu-<br>tion--Income Index . . . . . | 264  |
| 23. Car Ownership per District--1970 % Distribution<br>and Index . . . . .  | 267  |
| 24. S. Paulo--48 Districts--Market Opportunity 1970<br>Composite Index . . . . .  | 270  |
| 25. Composite Indexes Quartile Distribution and Map<br>Coding . . . . .   | 271  |
| 26. S. Paulo--48 Districts--Market Opportunity<br>Modified Composite Index . . . . .  | 276  |
| 27. Modified Composite Indexes Quartile Distribu-<br>tion and Map Coding . . . . .  | 277  |
| 10. City of S. Paulo . . . . .  | 200  |
| 11. Location of Shopping Centers in S. Paulo. . . . .   | 214  |
| 12. Iguatemi Shopping Center . . . . .  | 217  |
| 13. Lapa Shopping Center . . . . .  | 228  |
| 14. Center 3 . . . . .  | 240  |
| 15. City of Sao Paulo Districts . . . . .   | 255  |
| 16. Composite Indexes: Non-Modified . . . . .   | 272  |
| 17. Composite Index: Modified . . . . .   | 278  |
| 18. Decision Tree Diagram (Partial Representation). . . . .   | 307  |
| 19. Decision Tree Diagram Showing Probabilities<br>(Partial Representation) . . . . .   | 309  |
| 20. Normative Model--Flow Diagram . . . . .   | 318  |



# LIST OF FIGURES

| Figure | INTRODUCTION AND OBJECTIVES   | Page |
|--------|---|------|
| 1.     | Analytical Framework--Flow Chart . . . . .  | 14   |
| 2.     | Evolution of Retailing Stores . . . . .   | 31   |
| 3.     | Diagram of the Dialect Process . . . . .  | 41   |
| 4.     | Basic Shopping Center Designs . . . . .   | 83   |
| 5.     | Basic Shopping Center Designs . . . . .   | 84   |
| 6.     | Basic Shopping Center Designs . . . . .   | 85   |
| 7.     | The Greater S. Paulo Metropolitan Area (GSPMA). . . . .                           | 188  |
| 8.     | Location of the State of Sao Paulo. . . . .                                       | 194  |
| 9.     | Evolution of the S. Paulo Urban Area . . . . .                                    | 196  |
| 10.    | City of S. Paulo. . . . .   | 200  |
| 11.    | Location of Shopping Centers in S. Paulo. . . . .                                 | 214  |
| 12.    | Iguatemi Shopping Center . . . . .  | 217  |
| 13.    | Lapa Shopping Center . . . . .  | 228  |
| 14.    | Center 3 . . . . .  | 240  |
| 15.    | City of Sao Paulo Districts . . . . .   | 255  |
| 16.    | Composite Indexes: Non-Modified . . . . .   | 272  |
| 17.    | Composite Index: Modified . . . . .   | 278  |
| 18.    | Decision Tree Diagram (Partial Representation). . . . .                           | 307  |
| 19.    | Decision Tree Diagram Showing Probabilities<br>(Partial Representation) . . . . . | 309  |
| 20.    | Normative Model--Flow Diagram . . . . .   | 318  |



## The Problem of Urbanization

### CHAPTER I

#### INTRODUCTION AND OBJECTIVES

#### Foreword. The City as the Context for Retailing Adjustments

The focus in this dissertation is on the controlled shopping center as an urban institutional structure. As are most things, the shopping center is a creature of its environment and must be understood within the context within which it exists and functions, namely, the city. The city can be conceived of as a system which performs several specialized functions within the boundaries of its geographic area.

From a generic point of view, the city's functional process may be described in terms of the activities performed by its population, by the locational patterns of its inhabitants and institutions, and by the continuous movement of people and goods over a limited and sometimes well-defined geographic space. People living within the limits of an urban area perform a series of activities which can be divided into three main categories: living, working, and trading.

### The Problem of Urbanization

As a process of urbanization takes place, the city grows in size and population the economic development and the industrialization create separation between the point of production and the points of consumption. The three basic activities which were performed in the same place, or at very near distances, tend to become located in separate areas within the city limits because of space requirements.

Such a phenomenon, on the one hand, is conducive to better living conditions; the specialization in locational patterns for different activities makes the urban system more efficient, assuming that operations will be on a large scale. On the other hand, the separation of different activities among diverse locations creates a tremendous increase in the traffic necessary to move people and goods over the space. Due to societal norms and patterns, the movement of people and goods is likely to occur during the same hours of the day and toward the same marketplaces. If the retailing system of a city is not properly planned and located within the city, the accumulation of a homogeneous supply to fulfill a heterogeneous demand generates congestion and reduces the efficiency of the system.

These processes and interactions become more and more complex when a city, due to this growth, abandons its initial single center or concentric pattern and adopts an arrangement composed of several nuclei in which specialized activities are performed. This is the case in large metropolitan areas where the distances and the specific characteristics of each sub-area create an extensive need for movement among the several nuclei. If the locational patterns of retailing institutions do not show a rapid degree of ecological adjustment, the entire system will be jeopardized. An uneven flow toward retailing areas, for example, will effect the traffic necessary to perform other activities, such as moving from living to working areas.

#### Retailing System Adjustments

The adjustments made by the retailing system to the expansion of a city into a complex metropolitan area generally begin with the specialization of similar types of retailing institutions and their location in clusters near the central business district (CBD). The second adjustment is decentralization along the radial axes of the city and an unplanned locational trend to move to the core of the various nuclei of the metropolitan area. A final and most recent development is the change to noncentral locations with an extensive use of planned



facilities; these are likely to provide one-stop shopping and off-street parking. All these adaptations are forms of ecological adjustment that the retailing system must perform in order to survive and grow within a metropolitan environment. The most recent development, new institutions known in modern retailing as shopping centers, are the central focus of interest in this dissertation, in particular, their emergence, locational patterns, and normative planning aspects in a developing economy.

#### Background of the Problem

The concepts already mentioned indicate that the retailing study proposed here must start with the analysis of spatial and locational aspects and proceed to managerial and marketing dimensions. Such an approach also suggests that exogeneous and noncontrollable, rather than endogeneous and controllable, variables should be dealt with first. Before discussing shopping centers, it is necessary to determine and to analyze the environmental characteristics of the region in which the center will operate.

The Greater S. Paulo Metropolitan Area (GSPMA) has become the largest human conglomeration in Brazil and in South America. The factors which produced this concentration will be analyzed in detail in chapter 4, but a brief description of the city's origin and present

structure is mentioned at this point to provide a basis for the formulation of the problem.

### S. Paulo

S. Paulo was founded in 1554 by Jesuit priests. Its initial growth was slow, evidenced by its 25,000 inhabitants and 4,200 households in the first decade of the nineteenth century.<sup>1</sup> Today S. Paulo has 5.2 million inhabitants concentrated in an area of 857 km<sup>2</sup>, and a diametral axis of approximately 40 km. This megalopolis, which has grown at an annual rate of 5.2 percent during the last decade, is located in the southern part of Brazil near the Atlantic Ocean. It lies in a region of medium elevation where the average altitude is 2,400 feet. Since S. Paulo is surrounded by mountains, it initially grew from its central nucleus along the valleys where the main hinterland roads and railroads were constructed. More recently it has concentrated along the major radial avenues which spread from the central district of the city.

By virtue of several factors that will be discussed later, GSPMA represents an extreme example of inadequate use of urban land. This phenomenon has two side effects which are relevant in the present context; the first is the high value of land, which is associated with the second, a high population density factor of 1032 inhabitants per km<sup>2</sup>.<sup>2</sup>

### Retailing in S. Paulo

Following and sometimes contributing to the urbanization process of the metropolitan area, the retailing system has changed its characteristics in two ways. First, there has been a tendency toward institutional change, or the appearance of new types of retailing stores;<sup>3</sup> second, there has been a tendency toward decentralization. Such behavior has some positive aspects if regarded from the viewpoint that every firm must adjust ecologically in order to survive.<sup>4</sup>

The decentralization trend has followed the routes of the major radial avenues; since the early 1950's these have been the dominant areas of retail concentration.<sup>5</sup> This locational pattern was adequate until recently; other factors, such as a constant rise in population and increased use of the automobile, have changed the scene and more traffic space and restricted zoning regulations along these streets have become necessary. At this stage, the centralized locations began to lose their differential advantage since few of them provided off-street parking.

Retail location studies are a relatively new phenomenon in Brazil. Techniques such as trade area determination, traffic volume counting, drawing power determination, and design of retailing outlets in accordance with the spatial dimensions of the market are just emerging as common retailing practices. The studies



that are being performed seem oriented primarily toward the evaluation of a site already chosen rather than to site selection as such.

Despite the fact that new forms of retailing, such as supermarkets and chain stores, have been organized in the GSPMA, they have been planned mainly in terms of modification of their internal structure and consequently with insufficient attention to the changing urban environment. Shopping centers, which also represent a new form of retailing, seem to be following the same process. The limited number of institutions within this category have failed to use precise techniques for planning and design of their development.

The importance of these institutions will be described later in relation to the Brazilian environment, but at this point it is only necessary to mention the effective advantage that they can provide in reducing traffic congestion, better land use, and enlargement of the implementation of the marketing concept in the metropolitan area. Having laid the groundwork, it now is possible to formulate the central problem of this dissertation.

#### Problem Formulation

The retailing system plays an important role in modern society because it aggregates merchandise assortments and makes them available to ultimate consumers in

usable and smaller quantities.<sup>6</sup> Of necessity, there must be a high degree of adjustment and compatibility among the institutions which constitute the retailing system and the characteristics of the market in which it operates. Despite Seymour Baranoff defines this function as the central task of the retailing system, that is, aggregating assortments in anticipation of consumer demand and making available this "concentrated variety" for the convenience of the ultimate consumer.<sup>7</sup> Shopping centers may be viewed as physically concentrated retailing systems.<sup>8</sup> As such, they must provide both aspects of the above-mentioned function: (1) a qualitative, anticipated assortment achieved by means of their store mix; and (2) the convenience generated by their locational patterns, layout design, and the possibility of offering one-stop shopping.

Following the same reasoning it can be maintained that shopping centers are an advanced expression of the retailing system's organizational and locational patterns; according to the same rationale, the main objective of these systems is to serve as the locus for transactions with the ultimate consumer within a certain trade area.

#### The United States and Brazil

Retailing research in and observation of the U.S. and Brazilian environments indicates that the historical dimensions of these systems in both countries are relatively new. Historical analysis in the United States,



which will be examined in detail in chapter 2,<sup>9</sup> shows that shopping centers began in the 1920s and had its major expansion after World War II. In Brazil, development is much more recent, being less than ten years old.<sup>10</sup> Despite these constraints and the natural limitations of a comparative analysis between two broad systems, it is possible to perform a descriptive and comparative study of the controlled retailing systems in Brazil and the United States.<sup>11</sup> Such an analysis may provide the basis for the formulation of policies and recommendations concerning the planning and location of shopping centers in a developing economic environment.

### Main Objective

The central objective of this dissertation can be expressed as the determination of criteria and the formulation of norms concerning the planning, and location of controlled retailing systems in large metropolitan areas such as the greater S. Paulo. The central problem can be formulated as follows:

To conceive and to develop a model capable of generating recommendations for planning and locating shopping centers in accordance with the norms and criteria which constitute the dissertation's objective.

The norms and criteria that will represent the major guidelines begin with a rather simple but comprehensive statement of the marketing concept. The shopping

center as a marketing institution must serve needs and wants within profitability constraints. In other words, these institutions must fulfill and improve upon a wide set of distributive functions and activities within urban space boundaries; at the same time they must represent a profitable and efficient alternative for economic resource allocation. In accordance with this concept, the norms and criteria for the development of shopping centers can be expressed within the following scheme.

A. Relative to its customers, investors, and retailers, the shopping center must:

- (1) provide a return on investment which is satisfactory relative to competing alternatives with comparable risk;
- (2) permit long-run survival and growth to the firm;
- (3) enhance aggregate consumer convenience, which implies a reduction in the shopping effort in terms of time and travel; and
- (4) achieve economies of scale greater than those of alternative locational and organizational patterns.

B. Relative to its environment, the shopping center must:

- (1) increase the efficiency of urban activities;

- (2) allow better utilization of urban space;
- (3) avoid intraurban congestion; and
- (4) facilitate the service level of those firms supplying goods to the center retailing institutions.

These norms and criteria must take into consideration the evolution aspects of the retailing system and its relationships to the changing structure of the cities. Over time, cities tend to become more complex due to increasing specialization, which causes a decrease in local self-sufficiency.<sup>12</sup>

#### Research Requirements

The development of controlled retailing system in the greater S. Paulo metropolitan area has considerably lagged behind similar events in the United States. In S. Paulo, the first system emerged after the beginning of a period of cultural and economic growth, which occurred simultaneously with urbanization, industrialization, a complex distribution system, heavy traffic congestion, and all the problems inherent in the specialized activities of large metropolises.

Studies of these problems have been undertaken by public institutions, the local government, and the State of S. Paulo. Such efforts have been oriented toward urban analyses, traffic planning, and housing ordinances.<sup>13</sup> Other studies, oriented toward the distributive aspects of



the problem, have been conducted by educational institutions such as the School of Business Administration of S. Paulo and by individual professors at that school.

These contributions limited in number and scope were directed toward the description of the retailing system and its related managerial problems.<sup>14</sup> Consequently, the need for additional research seems evident. It could provide an essential service to marketing and retailing in Brazil, particularly if it could, by means of an interdisciplinary approach, offer syntheses and reduce the gap between the two orientations.

Such studies may prove helpful in guiding city planning and in advising private institutions about site selection and location problems. Research of this scope is quite feasible because of the better analytical tools which are available today. From a social point of view, it is clear that the normative dimensions of the model will be able to generate solutions which may avoid continued misallocation of resources and poor selection of shopping center sites.

#### Analytical Framework

The objectives of this dissertation and the characteristics of its central problem require a careful and detailed analysis of an extensive number of concepts, theories, and empirical variables. This task must be accomplished through an interdisciplinary approach, which

will draw upon contributions from several areas such as marketing, urban economics, and statistics.

The analytical framework will begin with a discussion of theoretical and conceptual constructs from the retailing system as a subset of the total marketing system. We shall be concerned primarily with functional, institutional, and locational aspects of the retailing system. Within this context, we then shall move into a similar treatment of the shopping center, which is a subsystem of the retailing system. This framework, which will be examined in detail in chapter 2, follows a logical pattern: it moves from generic concepts of marketing as applied to retailing, to the explanation of the retailing system's functional aspects, to a detailed analysis of retailing institutions and the evolution of their locational characteristics, to the study of shopping centers from an institutional and operational perspective (see Figure 1).

Chapter 3 contains a descriptive and evolutionary discussion of the Brazilian retailing system. The approach follows the pattern previously established, namely, from generalizations based on theoretical constructs to a more detailed analysis of S. Paulo's retailing system. As in chapter 2, patterns and operational relationships are examined with the aim of attempting a useful taxonomy for modeling purposes, which will be utilized in the last chapters of this dissertation.<sup>15</sup>

## ANALYTICAL SECTION

THEORY

Marketing Concepts

Retailing System  
Functions and  
ActivitiesRetailing Evolution  
Changes: Institutional (1)  
Locational (2)Shopping Centers  
as Retailing  
Institutions  
Operational  
Features  
TaxonomyBRAZILIAN ENVIRONMENTBrazil's Retailing  
System  
Evolution and  
ContrastsS. Paulo's Retailing  
System  
Evolution and  
InstitutionsS. Paulo's New  
Forms of Retailing  
InstitutionsEmergence of Shopping  
Centers in the S.  
Paulo Urban AreaURBAN SYSTEMUrban System  
City Functions  
and Structures  
Theories of  
Urban StructureRetailing within  
the Urban  
Area  
Theories of  
Retailing  
LocationGSPMA - Urban  
Structure  
Evolution  
PatternsGSPMA  
Urban Retailing  
Location

Analytical Constructs

MODEL SECTOR

Micro Variables

Macro Inputs

Model Simulation  
C, R=POTOutput  
Evaluation

END

Figure 1.--Analytical Framework--Flow Chart.



The environment, ecology, and various theories of retailing location are examined in chapter 2. The urban system, its components, and its structural features are reviewed, using as analytical tools the landmark contributions of Burgess, Hurd, Hoyt, and Ullman and Harris. The analysis then moves from theory toward an inductive explanation of S. Paulo's urban structure. Based on the concepts already developed, and using secondary data, a comprehensive inquiry into the city's developmental patterns, its structural changes, the evolution of its retailing institutions, its locational patterns, and an analysis of its macroeconomic descriptors will be made.

A major feature of chapter 3 is the analysis of the city's most recent urban plan and the close relationship between this plan's public policies and programs and the primary objectives of this dissertation.<sup>16</sup>

As can be observed in Figure 1, the material derived from the analytical framework developed in chapters 2, 3 and 4 will be used in the normative part of the work; a closer look at the same figure clearly indicates a logical and integrated flow of analysis from the macro-theoretical level to the microanalytical level.

In the next chapter the development of this analytical framework begins with an analysis of the retailing system and its components.

*Management Perspectives in Retailing* (New York: John Wiley and Sons, 1967), pp. 56-57.

FOOTNOTES: CHAPTER I

<sup>1</sup>Plano Urbanistico Basico, vol. 2, Desenvolvimento Urbano (S. Paulo: Prefeitura Municipal de S. Paulo, 1968), p. 23. Hereafter the Plano will be cited as PUB.

<sup>2</sup>Ibid., p. 45.

<sup>3</sup>Newness as a relative term will be discussed later, in particular the meaning of new in the Brazilian market at a specific time and place.

<sup>4</sup>Ronald E. Gist, Marketing and Society (New York: Holt, Rinehart and Winston, 1971), p. 364.

<sup>5</sup>Metro de Sao Paulo, Sistema Integrado de Transporte Rapido Coletivo em Sao Paulo, vol. 1 (S. Paulo: Companhia do Metropolitano de S. Paulo, 1968), p. 39. This is a technical report prepared by Hochtief, Montreal, De Consult, consortium of consultants.

<sup>6</sup>Rom J. Markin, Jr., Retailing Management: A Systems Approach (New York: Macmillan Company, 1971), p. 17.

<sup>7</sup>Seymour Baranoff, "Retailing as an Operating System," in Reavis Cox, Wroe Alderson, and Stanley J. Shapiro, eds., Theory in Marketing (Homewood, Ill.: Richard D. Irwin, 1964), p. 19.

<sup>8</sup>According to the definition used by the Community Builders Council, shopping centers may be defined as "a group of commercial establishments, planned, developed, owned and managed as a unit related in location, size and types of shops to the trade area that the unit serves; it provides on-site parking in definite relationship to the types and sizes of stores." Community Builders Handbook (Washington, D.C.: Urban Land Institute, 1968), p. 264.

For conceptual definitions see also Paul E. Smith, "Prescription for a Successful Shopping Center," MSU Business Topics (Autumn, 1966), 17; and Frank Meissner, "Planned Shopping Centers," in Ronald R. Gist, ed., Management Perspectives in Retailing (New York: John Wiley and Sons, 1967), pp. 86-93.



<sup>9</sup>For an extended treatment of the evolution of shopping centers in the United States see Community Builders Handbook, pp. 271-272.

<sup>10</sup>Alberto de O. Lima Filho, Shopping Centers--U.S.A. vs. Brazil (Rio de Janeiro: Fundacao Getulio Vargas, 1971), p. 91.

<sup>11</sup>In the present work the terms controlled retailing system and shopping center will be used interchangeably.

<sup>12</sup>Brian J. Berry, Geography of Market Centers and Retail Distribution (Englewood Cliffs, N.J.: Prentice-Hall, 1967), p. 106.

<sup>13</sup>PUB and Grupo Executivo do Grande S. Paulo, Gegram (S. Paulo: Governo do Estado, de S. Paulo, 1967).

<sup>14</sup>Polia Lerner Hamburger, "A Estrutura de Distribuicao (II)," mimeographed; William Knoke, "Supermercados no Brazil," Revista de Administracao de Empresas, 3, no. 9 (October-December 1963), 91; and Lima, Shopping Centers, p. 91.

<sup>15</sup>For similar reasoning see Eugene J. Meehan, Explanation in Social Science--A System Paradigm (Homewood, Ill.: Dorsey Press, 1968), chap. 3; and Paul E. Rigby, Conceptual Foundations of Business Research (New York: John Wiley and Sons, Inc., 1965), pp. 18-21, 92.

<sup>16</sup>PUB, see footnote 1 above.

from devoting a given budget of time and money to shopping.

The concept of operation under controlled competition is

analysed by Frank Meisner. CHAPTER II

permits the existence of a degree of competition which will, from the supply side, ensure profitable operation and from the demand side, freedom of choice.

In this chapter we shall examine a number of theories and concepts which are instrumental to this dissertation. This is done to establish conceptual foundations for explaining retailing in general, and shopping centers in particular; to provide a basis for analyzing and evaluating changes in the retailing system; to associate retailing development with urban dynamics; and to provide basic constructs for a normative model for shopping center location.

This dissertation conceives of the shopping center as a specialized form of retailing institution whose central objective is offering aggregate convenience and which operates under a condition of controlled competition. The idea of aggregate convenience stems from the classic definition elaborated by Reavis Cox in his analysis of the retailing system's structure. Cox has pointed out that "the consumer seeks aggregate convenience and for this, he is best served when the agencies to which he goes as consumer-buyer are arranged into clusters that help him to minimize the aggregate effort he spends in collecting and using his whole standard of living."<sup>1</sup> Extending his reasoning, Cox stresses that the consumer tries to maximize the returns he receives

from devoting a given budget of time and money to shopping.<sup>2</sup> The concept of operation under controlled competition is analyzed by Frank Meissner, who mentions that this aspect permits the existence of a certain degree of competition which will, from the supply side, ensure profitable operation and, from the demand side, freedom of choice.<sup>3</sup>

This discussion of the shopping center's objective leads to the assumption that centers must be identified as components of the marketing system, must operate within the urban environment, and therefore require a high degree of adjustment to the spatial dimensions of their trade area. A suitable way to examine this point is to conduct a functionalist investigation of the shopping center as a specific structural arrangement of the retailing system. We also assume it operates as a component of a higher order system--the marketing system--within the limits and the operational constraints of urban space.

#### Retailing Systems as Component of the Marketing System

Retailing is a part of the marketing system. It acts as a gigantic screen, filter, and facilitating mechanism in aggregating the vast quantities of goods, anticipating consumer needs, and dispersing these goods throughout the consumer population.<sup>4</sup> This definition is strongly influenced by Wroe Alderson's concepts of assortment and dispersion and matching homogeneous supply with heterogeneous demand.



It also emphasizes the relevant aspect of serving needs and wants over dispersed locations.

### Monostasy and Systasy

Taking into consideration the ecological aspects which are inherent in the social system, it also is possible to view retailing systems as organized behavior systems with a definite tendency toward monostasy and systasy in choosing locations. Alderson defines monostasy as the condition of occupying a unique position in the market place,<sup>5</sup> whereas systasy refers to the tendency to stand together or to seek support from other components of the system.<sup>6</sup>

These concepts are relevant to the latter explanation of retailing institutions which initially try to stand alone by seeking separate locations; in other words, they seek monostasic conditions. As the city structure becomes complex, and as new firms and patterns of population density emerge, one is likely to observe the tendency toward systasy. As Alderson mentions, these two factors create forces of attraction and repulsion among the institutions which compose the retailing system.

According to the preceding analysis, the following generalization can be made:

- (a) In their initial stages, the institutions which compose a retailing system show a tendency toward monostasic locational patterns (for example, the general store).



(b) As cities grow, stores tend to cluster, taking advantage of a location which may provide joint opportunity (for example, clusters of motels and restaurants at many city limits).

(c) In a more advanced stage, the two phenomena may exist simultaneously. In a first phase, retailing institutions leave the central business district because of urban congestion; this is a monostatic trend which also shows a high degree of repulsion, that is, a preference for an isolated location in the commercial axis. In a second phase, due to the same congestion, the stores move into functional, decentralized locations; this is a clear trend toward systasy and attraction (for example, the regional shopping center).

#### Transformation and Adaptation

The dynamic features of retailing locations and the new forms of physical organization described and commented on in the marketing literature seem to indicate that the transformation and adaptations manifested by the retailing system are highly consistent with the generalizations mentioned above.<sup>7</sup> These generalizations also have a common trait: they indicate the ecological characteristics of the retailing system's functions and processes.

Retailing's constant adjustment to environmental conditions can be better conceived if the role of retailing institutions is evaluated from the marketing concept viewpoint. That is, because retailing is the last node in the distribution process system, it is responsible for total implementation of the actions taken by other institutions in the channel, namely, manufacturers and wholesalers. This aspect requires a deeper analysis of the functional dimensions of retailing and its processes.

#### Functional Analysis of the Retailing System

The central function of the retailing system is to provide time and place utility within the boundaries of its area of influence. A functionalist approach in evaluating the role and objectives of the retailing system is compatible with this statement and provides the necessary background for studying the retailing process in relation to the characteristics of its operational environment.

For the purposes of this dissertation, retailing systems also are conceived of as "organized behavior systems which interact in conjunction with their relevant environment."<sup>8</sup> By this definition, they also can be termed ecosystems, which infers that all the components of a system are functionally linked to their environment.<sup>9</sup>

In the case of the retailing system, the most relevant variables in describing its operational process are the physical dimensions of the system, the locational patterns, and the spatial descriptors of the relevant environment.<sup>10</sup> An analysis of the interaction among these variables may provide generalizations or hypotheses such as the following:

Increased geographic dispersion of the cities is associated with decreased centralization of retailing institutions.

The conceptual introduction has shown that an analysis of the functional dimensions of the retailing system may be conducted within a theoretical framework, which enhances the perception of its characteristics.

A good approach is the scheme proposed by Richard Lewis and Leo Erickson in their study of the functions of the marketing system.<sup>11</sup> If one focuses attention on the retailing subsystem of the marketing system, it is logical that its primary function is to service local demand (demand within the relevant environment). In so doing, the system is creating aggregate convenience, which, by analogy with the reasoning of Lewis and Erickson, may be conceived of as the unique and inherent purpose of the retailing system.<sup>12</sup>



### Retailing Activities

The next step is to identify and discuss the activities performed by the retailing system in order to execute its functions. The discussion hereafter will be divided into two major categories: the generic activities and the specific activities performed by retailing. The first set of activities is related to the obtaining demand functions; the second refers to the locational behavior of retailing institutions and how they adjust to changes in the environment. The label generic means that these activities are performed by all marketing institutions in a more or less standard pattern; the label specific means that these institutions perform the activities with a high degree of specialization.

The activities of advertising, personal selling, sales promotion, product planning, and pricing are performed in various combinations and various degrees by marketing system institutions.<sup>13</sup> In the retailing system, for example, product planning may be conceived of as strategy relative to product mix or merchandising. Pricing in retailing is also a less flexible and controllable factor; the retailer is truly a middleman. His margins are largely fixed by two important price determiners--his supplier, whose price becomes the retailer's cost, and the consumer, whose demand is, to a considerable extent, a



given for the retailer. These activities, however, are subject to some control by the retailer. If they are properly managed, the retailer may be able to alter the market penetration; he may be able to increase the market share relative to the potential existing in the trade area.

In relation to the so-called demand servicing activities, retailing institutions should plan and manage them according to the existing characteristics of the trade area.<sup>14</sup> In this case, the institutions are assumed to perform a very specialized set of activities which must be adjusted to the specific position of retailing within the channel and which, by the same token, are oriented toward the servicing, locational, and logistic descriptors of the trade area. These activities are complementary to the obtaining demand activities mentioned earlier, but it is conceivable that they do not change the market potential. In addition, it is correct to assume that they are complementary and functionally related to the obtaining demand activities.<sup>15</sup>

Although the preceding analysis discusses how these activities are performed, for the purposes of this dissertation it is necessary to pinpoint the real meaning of demand servicing activities and their unique features in the retailing system.

### Demand Servicing Activities

The demand servicing activities mentioned by Lewis and Erickson are comparable to the following specialized activities in retailing: internal in their organizations. These are the services Demand Servicing Activities as Performed.

| Marketing System--Generic     | Retailing System--Specific*                 |
|-------------------------------|---|
| Warehousing                   | Location<br>Store and Warehousing Design    |
| Inventory Management          | Merchandising                               |
| Transportation                | Receiving and Delivery<br>Parking Decisions |
| Order Processing and Handling | Retail Services                             |

\*Source: Adapted from a conceptual framework given in William Lazer and Eugene Kelley, "Retailing Mix: Planning and Management," Journal of Retailing (Spring, 1961), pp. 35-36.

The analogous relationships depicted indicate that in order to perform the servicing demand function retailing institutions go through a multistage set of activities.

- (1) They appraise the market potential and its location;
- (2) a plan of selling and warehousing physical facilities is conducted;
- (3) an evaluation of the merchandise to be carried is made, bearing in mind the characteristics of the market and the dimension of the physical facilities;
- (4) an integrated plan is developed to program the in-flow and out-flow of products to and from the store site;
- (5)

adequate parking facilities are designed and built which will enhance transactional convenience;<sup>16</sup> and (6) retailing institutions plan and program the activities internal to their organizations. These are the services which are to be offered to provide an adequate flow of output by the system, and these must be planned in relation to the characteristics of the relevant environment.

#### Matched Parallelism

The foregoing analysis sets the stage for some final remarks regarding the nature of retailing system. According to Seymour Baranoff, the output of retailing is to produce what he calls "matched parallelism," or to correlate needs and wants with the resources, goods, and services available to satisfy those needs and wants.<sup>17</sup> Baranoff emphasizes that it is doubtful that a complete matched parallelism can be achieved, since the outputs of the retailing system will act upon the environment with a steady process of change. Consequently,

the system is a dynamic, continuous process--ever changing ever expanding; the reasons why the system works the way it does are many. They have to do with a high level of production, an inability to get things directly, specialization of labor, levels of aspiration, 'convenience,' adaptation to environment, urbanization and technology.<sup>18</sup>

The evolutive characteristics of retailing systems and the search for a constant adjustment to environmental

conditions have been discussed up to this point in terms of functional structure and the managerial activities of the component institutions. In the next section, attention will be focused on the description and analysis of the change theories relative to the structure of retailing institutions and their locational patterns.

### Theories of Structural Changes in Retailing Systems

The continuous adjustment of retailing system institutions is caused mainly by the drive toward differential advantage; the dynamic process of change also has "circularity" characteristics,<sup>19</sup> since every change presented by retailing institutions is almost immediately incorporated into the relevant environment. Consequently, the environmental conditions change again and new adjustments become mandatory if continued efficiency is desired.

### Characteristics of Change

The characteristics of structural changes in the retailing system are perceived in relation to decisions regarding the locational pattern of its institutions, in the assortment of goods offered for sale, in the size of stores, in the ownership and control of retailing outlets, and in the package of retail services offered in a particular period of time or in a specific market.



There are many theoretical explanations for these changes. David Revzan, for example, pointed out the following factors: (1) a continuous expansion of product assortment; (2) an ever-changing geographical environment; (3) a changing spatial pattern for the location of stores and centers; and (4) a need for highly formalized systems of retail markets, in which increasingly specialized trading practices take place.<sup>20</sup>

Malcolm McNair believes the changing pattern of retailing is expressed by its power to stimulate and encourage higher rates of consumption. In 1953, McNair mentioned several areas in which the retailing system could take decisions and perform changes. Among his recommendations, the following seem to be most relevant: (1) the decentralization of retailing activities must keep pace with the decentralization of cities; (2) store locations must continue to adapt themselves to new trends in suburban living, with emphasis on the private automobile; (3) unplanned central city shopping areas strangled by traffic congestion must be replaced by planned suburban shopping centers, and (4) a continued effort to increase convenience must be pursued by means of adequate parking, full assortment of merchandise, extended store hours, and better layout designs.<sup>21</sup>

McNair's normative program gains greater expression if one looks at how the retailing system in the United States has evolved over the last twenty years; the patterns do not differ from McNair's main lines of reasoning.<sup>22</sup>

### Effects of Change

Up to this point, the discussion was centered around the causes of changes in the retailing system. Now it is necessary to study the effects of these changes and their impact upon the major characteristics of the system. A brief analysis of these effects will be developed, and they will be related to the conventional theories of retailing system change.

Operational Effects.--Due to the increased number of products, proliferation of brands, and sophistication of wants and needs, the retailing system has gone through an extensive specialization of its operational patterns; the sequential trend of these adjustments is presented in Figure 2.

Figure 2 shows a certain degree of consistency between the increased number of products and the specialization patterns exhibited by retailing institutions. The numbers in parentheses indicate a sequence which started with the general store. A word of caution must be added: the figure is intended only to illustrate the changes in operational structure which can be observed in the field of retailing. It also is clear that the emergence of one

F U N C T I O N A L S P E C I A L I Z A T I O N

H I G H M E D I U M L O W

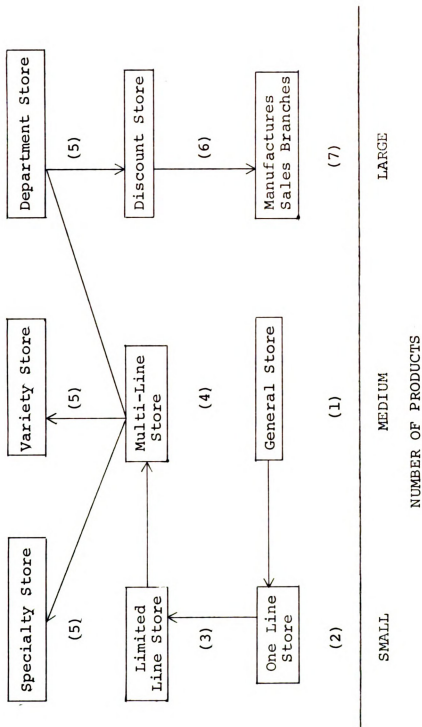


Figure 2.--Evolution of Retailing Stores.

specific type of institution does not deprive previous ones of market opportunity.<sup>23</sup>

Ownership Effects.--The expansion in operations, the requirements of more complex logistical support, the increase in capital needs, and inclusion of higher-level technology in the retailing process have had two generic effects upon ownership of retailing institutions. There has been (1) a general trend toward group or public ownership, with a decline in individual or private ownership; and (2) the creation of new forms of ownership such as leased departments, franchising, and consumer-owned outlets.

Effects on Location and Store Design.--In order to avoid the decline of the central business district, which was caused by such factors as lack of parking, old-fashioned store design, and traffic congestion, a trend toward decentralization emerged in the use of suburban clusters.<sup>24</sup> Location patterns were affected by the development of large centers near residential areas and with easy access to major intraurban and interurban freeways. The availability of large land tracts, enabled planners and merchants to innovate in terms of store design, location of the buildings within the site, and advanced architectural technology, all of which create a more pleasant shopping environment.<sup>25</sup>



The analysis of the fundamental concepts related to the causes and effects of change in the retailing system and the contributions from Revzan and McNair lead to a discussion of the formal theories of retailing change found in the present marketing literature.

#### Formal Theories of Change

According to Ronald Gist, explanation of the changing nature of the retailing system evolved into four theories or working hypotheses:<sup>26</sup> (1) natural selection; (2) the wheel of retailing; (3) the general-specific-general cycle; and (4) the dialectic process. Examination of these theories will be oriented toward an explanation of the emergence and locational patterns of shopping centers.

Gist points out that the concern with the changing role of marketing institutions is an attempt to identify the causes of change and to describe its nature.<sup>27</sup> In the specific case of shopping centers, it is conceivable to say that the causes of the change were: (1) increase in the size of urban areas; (2) traffic congestion in the core of the cities; (3) emergence of the dormitory suburbs, and (4) rise of consumer mobility. The nature of the change can be explained in terms of: (1) the decentralization of retail trade; (2) the development of sites for shopping centers; (3) the increased number of shopping centers; and (4) the construction of special retailing structures.

The causes and the nature of the change are multiple and can be observed in the organizational behavior of modern retailing institutions and in the overall characteristics of the system. Its analysis also provides an adequate theoretical framework for discussing the normative and comparative issues of this dissertation.

Theory 1: Natural Selection in Retailing Systems.--

The natural theory selection argues that the retailing institutions operating within an environment change in order to survive. This concept may be extended to all organized behavior systems and is a major conceptual framework of the proponents of Aldersonian thought on marketing.

The variables which constitute the environment change; within the capabilities of its resources and technological skills, the retailing system changes and adjusts to the new demands of the environment. Those institutions which, by one means or another, begin to demonstrate a large innovative and adaptative behavior are likely to receive positive feedback from the environment; as a consequence, they show a differentiated "market power." The result of the process is that those institutions which do not innovate begin a cycle of self-destruction and enter into what may be called a fading trend.

This trend starts with the decrease of institutional adequacy in relation to the consumers, particularly when the more adaptive competitors are able to offer better retail services. The next stage is a decline of sales volume caused by the reduction in trade area dimension, which also is related to lesser drawing power and weaker market penetration. The consequent smaller operational scale creates several phenomena, among them the following: services must be reduced since they are by far the most controllable costs; the amount of inventory must be reduced with a conceivable impact upon the assortment; and the ability to use mass promotion is reduced since the smaller volume and narrowing trends in product mix do not permit these expenses. The overall profitability of such institutions is likely to show a decline, which will accelerate the deteriorating process already described.

As a result, noninnovative institutions will be unable to inject new capital and they will be below the competitive level in the job market. Thus, the financial capacity to relocate in prime spots will be lost, and the maintenance of a sound level of selling services will be impossible. The most common example of institutions showing this pattern are grocery stores located in the central business district or on corners of radial commercial strips.<sup>28</sup>

On the other hand, adaptive institutions possess a high degree of sensitivity to changes in the relevant environment. They change in the short run, and capitalize upon market opportunity. The effect can be described as a strong improvement in the "power to act"--the Aldersonian concept of differential advantage. By and large, these institutions are able to accommodate to changes in the city structure. Using larger amounts of fixed capital, they seek better layouts and locations and use modern patterns of retailing management.

Following such technological changes as widespread use of the automobile and the construction of intraurban rapid transit networks, these stores move into the planned and controlled sites of the shopping centers, which are the latest expression of compatibility to provide easy access to the mobile buyer. The trend toward shopping centers further shifts the central places within the urban area; stores which do not follow the trend are automatically outside the trade area and the range of spatial competition. Theoretically, stores which move into the shopping centers are components of a highly energetic subsystem of retailing; stores which remain in decaying areas belong to a blighting subsystem, namely, the CBD, or the so-called inner city.



The theory previously discussed indicates that changes in the urban environment caused by applied technology create a climate conducive to centrifugal locations and new forms of store design. The processes change the density of demand over space, positively affecting those institutions which follow these trends and negatively affecting those slow to adapt. The effects have definite influences on individual stores, as well as on sets of institutions located in decaying areas.

These modifications and adjustments must be conceived of as a continuous process, since they are incorporated almost immediately into the relevant environment and become an integral part of the urban system.<sup>29</sup> This natural selection theory is mentioned by other authors and given various names,<sup>30</sup> but basically it is concerned with the phenomena related to changes from an ecological perspective and emphasizes the relevant aspects of survival and growth.

Theory 2: The Wheel of Retailing.--The conceptual framework of the wheel pattern was derived originally from McNair<sup>31</sup> and was expanded and extensively discussed by Stanley Hollander.<sup>32</sup> The theory is basically related to innovative behavior and changes in the operational patterns of retailing stores as they move toward maturity. More specifically, these scholars focused on operational margins, product mix, and on the managerial capacity of the storekeepers along the wheel cycle.

It is possible, however, to explore changes in location and store design within the wheel theory framework using the examples of "conformity and non-conformity" mentioned by Hollander.<sup>33</sup> The decentralization and construction of specialized buildings may be viewed as a particular form of nonprice competition which gives the firm an opportunity to increase volume and maintain gross margin standards. An example of conformity is supermarkets and discount stores, which, in the initial stages, operated in low-cost buildings with lower rent value. The first discount stores were located in fringe locations with modest facilities and limited services, but later they were admitted into shopping centers. Within certain limitations, they improved their service level. A simple observation of the architectural features of modern shopping centers indicates a considerable degree of conformity with the wheel pattern; the modern closed mall is a clear expression of this trend.

The case for nonconformity might be argued on the basis that decentralization and suburban shopping centers are not a time innovation; rather, they represent the same way of doing business in other locations within a geographic area. This argument is rather difficult to defend if one looks at very sophisticated centers such as the Ball Harbor in Miami or the Somerset in Detroit, which are typical examples of evolution in design and luxury.<sup>34</sup> These centers were planned and constructed with a highly sophisticated target market in mind.

Theory 3: The General-Specific-General Cycle.--

There are certain limitations in using the hypotheses of the general-specific-general approach to study the decentralization of retailing and the emergence of shopping centers since its focus is on the depth of lines carried by the institutions. However, two points may be mentioned. First, modern shopping centers are flexible in accommodating specialty stores and larger department stores. Consequently, the center environment is permissive, not only to large-scale retailing, but also to the specialty store, which exemplifies the return to specialization in retailing. Second, shopping centers offer one-stop shopping. According to Victor Gruen, the centers are able to create an outstanding and ideal environment for shopping which cannot be matched by any commercial street or unplanned shopping district. The center, Gruen believes, is the expression of a rare occurrence in our free enterprise economy--the binding together of individual businesses in cooperative fashion with the aim of creating greater commercial effectiveness through unified endeavor.<sup>35</sup>

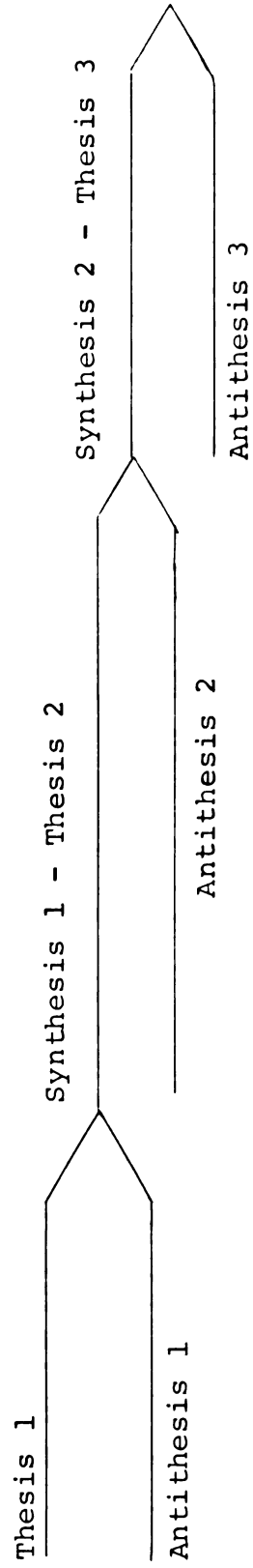
Theory 4: The Dialectic Process.--The dialectic

process is based on an application of dialectical reasoning to explain the change process of retailing institutions. Research seems to indicate that the inception of this theory must be credited to Ronald Gist.<sup>36</sup>

The evolutionary aspects of the dialectic process are certainly the most relevant to a discussion of the changes in retailing. The scheme's initial stage is labeled thesis and refers to an existing set of ideas, forms, or philosophical attitudes in relation to the performance of some processes. In the second stage, antithesis, the evolution creates new and alternative forms for performing the process. The antithesis must be conceived of as the negation of the previous stage. The third and final stage of a change cycle is called synthesis and may be defined as the mixture or blending of attitudes and concepts used in the first and second stages. The dialectic argument is depicted by Figure 3.

The entire change and evolutionary patterns through which the retailing system has passed may be explained with the dialectic framework, but for purposes of the present work only the decentralization and emergence of shopping centers will be examined in detail. In the first stage, thesis, stores were located mainly in the central business district, and had no or limited parking facilities (street parking). They occupied buildings which were undifferentiated from the basic designs of the neighborhood and which generally had limited facilities for receiving and delivery. Most of them operated only within normal working hours.





Source: Ronald Gist--Retailing--Concepts and Decisions, pg. 107.

Figure 3.--Diagram of the Dialect Process.

During the antithesis phase there was a generalized tendency to noncentralized locations and use of land for parking purposes. There also developed architecturally complex structures, specially planned and designed for retailing and to accommodate clusters of stores within an environment of controlled competition which had very specialized loading docks (including underground tunnels) and pick-up stations. Very flexible operating schedules catered to the weekend buyer and family visits during evening hours.

The synthesis stage in this evolutionary process may be conceived of as the tentative movement toward CBD renewal, including the transformation of central streets into pedestrian malls, the modernization of downtown department stores, and the construction of multideck public parking in the core of the cities. The success and final evolution of the synthesis phase cannot be ascertained definitely because of the countervailing power of the suburbs and their increasing population. In addition, there is the unavoidable impact of the automobile; its positive effects create higher mobility, but its negative effects generate heavy traffic congestion in central city areas. Although the dialectic process has passed through only two stages, it is possible to say that it represents a neat framework for evaluation and explanation of the decentralization phenomena and the

emergence of shopping centers. This theory differs from the wheel pattern in that the latter does not integrate conceptual and operational aspects common in the previous stages.

These theoretical analyses of retailing systems, their functions, and the evolutionary process of their components make possible a detailed study of spatial theories, their fundamental concepts, and their relationship to shopping centers. Therefore, these institutions will be examined in terms of their operational characteristics, their locational patterns, and their role within the urban area. Such an approach takes a multi-dimensional perspective which perceives of shopping centers as highly specialized marketing institutions performing functions within their relevant environment, namely, the city.

#### Theory of Change in the Spatial Location of Retailing Institutions

Up to this point the analytical framework has been developed around the theoretical explanation of the changes in the retailing system which are expressed by the evolutionary characteristics of the institutions, their functions, their activities, and their organizational behavior. We now will discuss theories which center on the changes in the spatial location of retailing institutions from a strategic point of view.

In other words, we will evaluate the logistics of retailing location as a response of the system to changes in the environment. At this point no mention will be made of theories concerning the structure of cities, the techniques of defining trade areas, and the decision process which is necessary to evaluate and to select a trade site. These topics will be discussed in detail at the end of this chapter in conjunction with an analysis of marketing geography and the spatial dimensions of the retailing system.

The treatment given to the subject here stresses the point that changes in retailing location are strategic moves made by the institutions in order to face changes in urban space. Such an approach begins with the basic assumption that retailing is space oriented; furthermore, one of its unique characteristics is that it must follow shifts in the urban structure and must seek competitive advantage by means of adjustment in locational patterns.

Many marketing theorists have been concerned with the problem of changing locational patterns and much has been written on the subject.

#### Lalonde's Construct

Bernard Lalonde has said that "in recent years much attention has been focused on the changing structure of metropolitan areas, mainly due to modifications in



population concentration" which requires adjustments in the locational features of retailing. According to Lalonde, "the retail structure exists to serve the population of the area; and since it serves a definite need, it shifts in response to a change in that need."<sup>37</sup> Thus, it is axiomatic that "the decentralization of the urban population within a metropolitan area has caused a similar decentralization in the retailing structure of the country."<sup>38</sup> Finally, Lalonde mentions that an outstanding symptom of decentralization has been the emergence of shopping centers.

In order to face these dynamic trends, the retailer must take into consideration at least the following points: the first is related to the need of changing the site of his business; the second is related to the need of a constant evaluation of the performance of the existing or of the new site; the third deals with the design of the physical facilities in the new location; and the fourth is concerned with the need for a constant monitoring of changes in the location in terms of population movements, modifications in the economic descriptors in the area, and so forth.

These multistep studies are likely to produce information that will enable the retailer to make decisions related to location strategy, which centers around the evaluation of the actual adequacy of the store facility as well as possible alternative locations.<sup>39</sup> These studies consider basic data on costs and revenues as related to the actual market potential, that is, actual performance in the existing location as compared with costs, revenues, and the related potential in alternative locations. Since location changes are linked with additional investments, it is essential to prepare projected operating budgets for all the alternatives under consideration.

#### Applebaum's and Mertes's Constructs

William Applebaum also stresses the desirability of obtaining pertinent information about population descriptors, environmental conditions, and the level of competition within areas under consideration.<sup>40</sup>

The changing conditions in urban areas and the need for strategic adjustments also have been studied by John E. Mertes, who points out that location of a given retailer is unique, and that a site once suitable gradually may become an unprofitable one.<sup>41</sup> Mertes's studies, which focused on the spatial environment of Oklahoma City and its surrounding regions, reveal some interesting concepts of strategy in retail location. According to Mertes there is an interplay between convenience and

choice when the consumer decides where to shop. Convenience is increased by the reduction in time and effort necessary for shopping trips, whereas choice is enhanced by means of broad assortments or by the degree of accessibility to places where comparisons can be made. Thus, there is a conflict between convenience and choice, and this conflict may be reduced through increased accessibility.<sup>42</sup>

Retailing institutions must seek optimization of convenience and choice by using the accessibility factor in a positive sense and within the limitations of the controllable and noncontrollable variables. Convenience may be achieved by means of nearby locations, but a limiting factor is that space restrictions of such locations do not allow for maximization of choice. To provide a wider range of choice, more floor space is necessary; as a consequence, locational decisions become centrifugally oriented. Mertes assumes that consumers "will make an extra effort in time and distance costs to visit shopping areas that provide a maximum selection of comparison goods";<sup>43</sup> the drawback is that control of accessibility is limited or sometimes impossible. In order to reduce friction over space and to improve choice, the retailer makes strategic moves within the marketplace, choosing prime sites along road networks and building specialized retailing complexes such as shopping centers.

As a result of increased automobile ownership and the outstanding progress of U.S. highway development, the following strategic location alternatives are presently available, according to Mertes's classification.<sup>44</sup>

1. Internal Site--in the city's core or limits, generally near freeways which allow rapid movement of in-bound and out-bound traffic.
2. Axial Site--in the radial traffic arteries which serve as links between the core of the city and the outlying areas.
3. Pivotal Site--at the interchange of two principal roads in areas of high population density. These are adequate for community shopping places.
4. Peripheral Sites--on the outskirts and in fringe areas of large cities. Here large complex developments, such as regional shopping centers, can be accommodated.
5. External Sites--in the vicinity of high density traffic highways. This location alternative does play an important role in megapolises or interurban areas such as Detroit-Chicago, San Francisco-Los Angeles, and so forth.



### Markin's Business Area Classification

In seeking locational adjustments the retailing institution follows customer movements not only in terms of their increased mobility over the urban space, but also in accordance with their changing densities within that space. The generic characteristic of these trends is a continued decentralization of retailing sites as they leave the core of the city and move toward its boundaries. This trend created the following possible types of business areas, which Rom Markin has classified.<sup>45</sup>

1. Central Shopping Area--generally in the core of the city. It includes large multi-floor department stores, financial institutions, and civic centers.
2. Secondary Shopping Area--composed of several smaller clusters and operating as satellite nuclei around the CBD.
3. Stringed Developments--unplanned clusters located along the radial transportation routes.
4. Neighborhood Area--an unplanned cluster of convenience stores drawing traffic from the adjacent area.
5. Free-Standing Locations--monostasic retailing institutions which provide convenience parking and shopping and business facilities.

6. Shopping Center Area--planned and developed center drawing business from the surrounding area according to the attracting power of the store mix.

In the process of choosing a suitable location, retailing institutions analyze the characteristics of each of the areas mentioned above and their compatibility with the operational planning which the particular store has in mind.

#### Nelson's Location Principles

Another theory which explains the change in retailing locations was developed by Richard Nelson with very empirical, but pragmatic, formulations.<sup>46</sup> Nelson suggests a site selection procedure composed of eight principles which retailers should follow, totally or partially, when appraising a new location. The first principle refers to the analysis of trading area potential, which is determined by the evaluation of the population, their income, and willingness to buy. The second principle is concerned with the accessibility of the trade area in which the retailing institution will be locating; this factor is measured not in a static manner, but takes into consideration past, present, and future trends. The third principle involves knowledge of the growth potential in the area, or even of the possible future decline of sales volume. The fourth principle relates to the concept of

interceptors,<sup>47</sup> that is, selection of locations on the routes between downtown (the traditional marketplace) and residential areas. The basic function of interceptors is to draw traffic from conventional business districts because of their increased convenience. Nelson's interceptors are located in main radial axes and near pivotal sites on the interchange between a radial and a loop.

The concept discussed here represents the initial expression of trends toward strategic decentralization which was observed by Nelson in cities such as Detroit, Chicago, Mexico City, and Vancouver.<sup>48</sup> The occurrence of these location strategies also may be the cause of some urban features, such as the sectorial and multinuclei patterns discussed by Homer Hoyt and C. D. Harris and E. L. Ullman.<sup>49</sup>

The fifth principle considers the role of cumulative attraction, which may be achieved by institutions selling similar and complementary goods. According to Nelson, these institutions will enjoy a synergetic advantage because of their attraction power when located together. It is interesting to note that this principle is consistent with the Aldersonian concept of systasy in locational decision making.

The sixth principle is expressed by the rule of retail compatibility and was defined by Nelson as follows:

two compatible businesses located in close proximity will show an increase in business volume directly proportionate to the incidence of the total customer interchange between them, inversely proportionate to ratio of business volume of the larger store to that of the smaller store, and directly proportionate to the sum of the ratios of the purposeful purchasing to the total purchasing in each of the two stores.<sup>50</sup>

The empirical evidence of the strategic application of this principle may be observed in unplanned retailing clusters as well as in the development of tenant mixes in planned shopping centers. In the first case, when stores are located along major commercial strips, one observes the close proximity of car dealers, automotive and parts stores, and gas stations, all of which are complementary in their trade. In the second case, in planned shopping centers of large dimensions, there is more than one outlet for goods such as shoes, men's apparel, and so forth. In order to provide sufficient space for the latter, large sites are necessary, and they are likely to be found only in decentralized locations. The sixth principle is related to the importance of customer interchange among stores, whereas the fifth emphasizes the total drawing power of a specific location.

The seventh principle, unlike the sixth, takes competition into consideration. It uses an inverse rationale, emphasizing the importance of avoiding intercepting positions and location in clusters.



The eighth principle is oriented toward the economic analysis of the site. Nelson mentions that the evaluation must be performed in terms of the site's cost and its relationship to sales productivity. This reasoning is connected to the objective assessment of costs and revenues relative to potential.

#### Simmon's Model

A more complex and multivariable theory to explain the changes in location is provided by James Simmons, who bases his model on the assumption that changes in income, population, mobility, technology, and urban patterns are the controlling forces (exogenous and independent variables) which affect the retailing system's structure and locational patterns.<sup>51</sup> Simmons develops an interesting breakdown of the factors affecting retailing location; on the demand side he places customers' preferences and their degree of mobility; on the supply side he analyzes the cost of locating at one specific site. This model takes into account technology, urban ecology, and the respective adjustments made by retailing institutions. According to Simmons, shopping centers reveal the effects of economies of scale and a higher level of systemic adjustment to urban area trends.

### Summary of the Preceding Theories

The preceding theories are an excellent set of conceptual tools to explain the decentralization of retailing. Furthermore, analysis of them demonstrates that they emphasize the strategic perspective, the operational dimensions, and the systemic characteristics involved in the evolution of spatial locations. Mertes, Applebaum, and Markin contribute classificational concepts; Nelson deals with the operational programs of site selection; and La Londe and Simmons offer a systemic approach. This set of tools ranges from simple reasoning, such as that suggested by Nelson, to complex models, such as the Simmons' concepts. For the purposes at hand, the major contribution of this body of knowledge is that it furnishes constructs to study problems related to prescription of store location and investment in retailing. Beyond this, it indicates the trend in locational patterns as well as the evolution toward the most highly specialized form of retailing, the shopping center.

### The Shopping Center as a Component of the Retailing System

This general discussion of the retailing system and its evolutionary patterns now permits a closer examination of shopping centers, which are highly specialized forms within this system. These institutions will be analyzed as components of the retailing system

with an emphasis on their functional and operational characteristics. The basic purpose is to understand the evolution of these institutions and to explain how they adjust to the particular dimensions of a trade area. The following analysis will be centered on the U.S. environment and its shopping centers.

Paul E. Smith, in a seminal article, conceptualizes the shopping center from a systemic approach. He believes it must be examined from a realistic appraisal of facts and observed trends in the economic life of the community.<sup>52</sup> A shopping center, says Smith, is, in its entirety, a retail institution. Accordingly, a center which is composed of several independently owned stores must be conceived of as an entity in relation to its linkages with the market and its adequacy within its demographic trade area. Because of the long-term commitments and extensive capital investment involved, center location and planning must take into consideration environmental trends such as modifications in road networks, traffic patterns, and zoning policies.

Smith's total system concept emphasizes that the center's main objective is to function as an open system. It must take into account the possibility of influencing its external environment, and it also must have a great deal of control of its internal environment. The complexity

of these tasks requires both marketing expertise and the cooperation of developers and financial agencies. The shopping center also is conceived of as a dynamic institution since it is built to meet the immediate requirements of the market as well as to allow for the center's future expansion.<sup>53</sup>

The systemic analysis of the shopping center, which constitutes the basic framework of this dissertation, suggests the following scheme: the shopping center as a system; the shopping center's functions; the shopping center and the marketing concept; the shopping center's industry evolution; the shopping center historical perspective; the shopping center's growth and its causal factor; the shopping center's effects upon the retailing system; a taxonomy of shopping centers; and the future trends of shopping centers. Although shopping centers may be defined and classified from different perspectives and viewpoints, the systemic analysis used here will permit a better understanding of the system, its components parts, and its interactions. The approach chosen also stresses marketing characteristics.

#### The Shopping Center as a System

As organized behavior systems, shopping centers offer what Wroe Alderson refers to as closure: they are able to make retailing "handle a greater output and to operate at a new level of efficiency."<sup>54</sup> Because the

centers perform some otherwise missing, incomplete, or unbalanced functions and activities within the retailing system, they are capable of achieving differential advantage in relation to nonadaptive institutions. In order to reach the operational level necessary for marketing closure, the centers aggregate within a planned and controlled environment a much more complex set of elements than conventional retailing institutions.

The variables which affect a shopping center may be described and classified in two groups: internal, controllable variables and external semi- and noncontrollable variables. In the first group are included the physical site, building size and design, space allocation, store mix, the center's administrative organization, and the merchants' association. In the second group, semicontrollable variables, are size of the trade area, relations with the governmental system, and linkages with the existing road network. Noncontrollable variables are level of income in the area, growth of population and new households, and counteracting moves of competitors.<sup>56</sup>

#### The Shopping Center's Functions

From a functional point of view, these internal and external variables affect both the operational process of the centers as a whole and relationships among subunits. The fact that several retailing firms are functioning in a controlled environment gives them a close interrelation in many activities, some of which may be performed



in conjunction. It could be possible to lower distribution costs and reduce expenses with joint promotions, common maintenance, and shared parking spaces.

Using a concept of biological analogy developed by A. C. R. Dressmann, it can be said that the institutions located within a center show a pattern of convergence for certain activities and specialization for others. These two qualities make possible a better final result than is achievable through divergent locational patterns and indiscriminated trade.<sup>57</sup> In other words, since the convergence factor does not preclude the specialization of component institutions in the center, the end product is a better competitive environment at lower costs than in situations where spatial monopolies or oligopolistic situations may exist.

Another basic feature of the shopping center is that it makes better use of land space since it reduces the movement of people within the urban area. This statement is related to the concept of central place, according to which trade is almost exclusively center oriented; that is, people move in the direction of trade and vice versa.<sup>58</sup> The wide range of product offerings

in modern cities would necessitate considerable use of land for many single-unit stores; such a pattern requires multistop shopping and also more space for movement among stores. A shopping center, being in a single location, can aggregate all the goods that otherwise would be offered by a larger number of lower hierarchy stores. It can transform dispersed and indifferent goods into central goods.<sup>59</sup> The function of a shopping center, if conceived of in this way, is to fulfill the needs of its surrounding region by providing noncentral offerings in a central place. The primary advantage is that if a larger quantity of goods is to be sold, the additional capital investment required will be better utilized where larger scale operations are possible.

From the urban planning point of view, the shopping center frees the city planner from the problem of how to provide for tertiary level activities. The center allows the core of the city to be used for public activities as well as central services, congestion is avoided, and trade can be relocated into a multinuclei pattern through planning policies that are ecologically oriented; plans for the location of retailing activity can be developed which include sensitivity toward the ecological factors influencing urban growth.<sup>60</sup> Since the shopping

center can operate in noncentralized areas by taking advantage of today's high degree of mobility, the city planner can use this fact to suggest positive answers to changes in the urban environment.

The function of the center as a modern type of retailing institution also may make it a catalytic agent in reducing the rigidities of old locational schemes. From another point of view, the centers will open the boundaries of the city and avoid the centripetal goods flow patterns which generate congestion in the inner city. In addition, Perry Bliss stresses that

shopping centers are a strong enough innovating force to bring about basic changes in older location values; they compel large number of retailers to join them or to adopt the planning and coordinating techniques of these new controlled centers.<sup>61</sup>

Due to their physically specialized retailing facilities, shopping centers function as "planned operated, and controlled units."<sup>62</sup> This characteristic generates the same public image, because the public looks upon the centers as units and as single places to shop.

#### The Shopping Center and the Marketing Concept

The shopping center may be considered as an instrument for implementing the marketing concept, whose main focus is on the customer. Consumer orientation in retailing institutions, particularly shopping centers, necessitates a high degree of compatibility with the

determinants of retail patronage. Because of its extreme flexibility, a shopping center may include not only new stores which the customers desire, but also those stores which the customers are used to patronizing and which, because of nonplanned location techniques, have been scattered throughout the area. Obviously, if a shopping center can perform these functions it will have provided, in effect, one-stop shopping.

The proposition that new and specialized physical facilities may implement and enhance the marketing concept has been studied extensively in marketing literature. Although written indirectly from this perspective and not intended to deal with shopping centers in relation to the implementation of the marketing concept, some studies that should be mentioned are those by C. T. Jonassen in 1955,<sup>64</sup> Louis Bucklin in 1963,<sup>65</sup> Persis Emmet in 1961,<sup>66</sup> and Charles Stonier in 1960.<sup>67</sup> These studies seem to indicate that shopping centers have a distinct advantage because of their capacity to fulfill locational needs and to offer a greater depth and breadth of assortment. The same point of view also is presented by James Engel, David Kollat, and Roger Blackwell, who mention that "the growth of suburban shopping centers and the loss in the market share of downtown retailers are indicative of the importance of location (and parking convenience) in influencing consumers' choice of a retail

outlet."<sup>68</sup> The same authors indicate that merchandise variety and assortment have been found to influence the locus of purchase preference.<sup>69</sup>

The actual and attempted efforts to revitalize downtown areas seem to prove that shopping centers have been successful in attending to consumers' needs; these efforts follow the basic patterns used in shopping centers, including protection from weather, easier accessibility through pedestrian malls, low cost or free parking, and more flexible business hours. To date, such revitalization has not been very impressive due to the multiplicity of ownership and the consequent difficulties in finding joint financial resources and common goals.

Finally, the modern shopping center serves the marketing concept because of its ability to adjust to the changing needs and habits of existing and potential customers within a dynamic environment.<sup>70</sup> The center can do so because it supposedly is planned in accordance with customer orientation and is designed to be compatible with trade area descriptors; it integrates all the functions performed and duplicated in previous locational patterns; and, what is more relevant from an economic viewpoint, it is able to operate on a larger scale than individual stores or unplanned clusters, which is crucial for profitable operations.

### The Shopping Center Industry Evolution

Because the shopping center has served U.S. needs so well, and because it may be viewed as a successful ecological response of the retailing system to changes in the environment and in population mobility, the number of centers has increased substantially in the United States since 1945. The center has become an important institution in the U.S. economy and a distinct feature of the U.S. retailing system. It can be said that there is a shopping center industry in the United States today.<sup>71</sup>

By virtue of the complexities related to the planning, design, financing, construction, and management of shopping centers, the industry includes firms and technical skills from several sources. The urban planner, the developer, the architect, the marketing analyst, and the financial consultant all play a specific role in the development of centers. Since the projects are always long term, it is difficult to define precisely when the participation of one of these technicians begins or ends.

Victor Gruen suggests that the development of a center requires the joint effort and continuous work of a team of experts who are supposed to perform specialized functions during the realization of the project;



the success of the future center depends upon the integral collaboration and understanding among the team members.<sup>72</sup> From an institutional point of view, the shopping center industry is composed of participant and auxiliary agencies such as marketing research firms, building contractors, financing companies, real estate developers, and promoters.

According to the Urban Land Institute, there are no official statistics regarding the actual number of planned shopping centers,<sup>73</sup> but it points out that about 45 percent of total U.S. retail trade in 1970 was expected to come from stores located in shopping centers. In a recent seminar offered to businessmen, National Cash Register do Brasil officers reported that there are 12,500 shopping centers in operation in the United States, with annual sales of approximately \$100 billion.<sup>74</sup> A more accurate analysis of the figures and operational dimensions of the industry is found in the Urban Land Institute's publication, The Dollars and Cents of Shopping Centers, which is published triannually.<sup>76</sup>

A statistical study of the shopping center industry was published in 1966 by Chain Store Age. According to the author, the great expansion of U.S. centers took place after World War II; only 30 centers were reported in 1940, and 75 in 1945; the industry was of relatively

small dimensions. However, during the last two decades the number of centers has expanded impressively, as shown in Table 1.<sup>76</sup>

TABLE 1.--Shopping Centers in the USA.

| Years | <u>1955 - 1967 (Base year 1955)</u> |             | Unit Increase | % Increase |
|-------|-------------------------------------|-------------|---------------|------------|
|       | No. of Centers                      |             |               |            |
| 1955  | 1000                                | index = 100 | 0             | 0          |
| 1956  | 1600                                | = 160       | 600           | 60         |
| 1957  | 2200                                | = 222       | 600           | 37.5       |
| 1958  | 2900                                | = 290       | 700           | 32         |
| 1959  | 3700                                | = 370       | 800           | 27         |
| 1960  | 4500                                | = 450       | 800           | 21.5       |
| 1961  | 5500                                | = 550       | 1000          | 22         |
| 1962  | 6300                                | = 630       | 800           | 14.5       |
| 1963  | 7100                                | = 710       | 800           | 12.5       |
| 1964  | 7800                                | = 780       | 700           | 10         |
| 1965  | 8600                                | = 860       | 800           | 9          |
| 1966  | 10275                               | = 1021      | 1675          | 19.5       |
| 1967  | 11600                               | = 1160      | 1325          | 13         |
| 1970  | 13000                               | (Estimate)  |               |            |

The figures above are presented only for illustrative purposes. A more extensive breakdown would be necessary to demonstrate the evolution of the industry in terms of

its competitive power. Data would be needed on the sales these institutions have been able to draw from other retailing locations, the number of new stores which have moved into shopping centers, and the increase in square footage during the last three decades.<sup>77</sup> The growth trend in the industry is examined by Brian Berry, who mentions changes in retail technology and metropolitan highway improvements as the primary factors. He also notes that in the competition between central unplanned locations and centers the latter have been the victors.<sup>78</sup>

The overall development of this industry in the United States may be divided into the following periods:

1st Period--Before 1910--retailing was highly concentrated in the downtown area.

2nd Period--From 1910 to World War II--development of commercial radial axes and unplanned outlying centers.

3rd Period--After World War II to the present--structures and patterns of retailing location and design changed very rapidly, with new equilibrium forms not yet clearly identified in the suburban areas.<sup>79</sup>

The future trends in this industry are a complex subject since changes in societal values, environmental problems, and the consequent alternations in buying

behavior are likely to have a major impact on the retailing system. Despite the newness of this industry it is possible to observe some modifications already being implemented, such as the closed mall concept and the highly specialized centers of Ball Harbor in Miami, Florida, and the Colonial Center in Los Gatos, California.

The Shopping Center:  
Historical Perspectives

Interestingly enough, the historical aspects of the U.S. shopping center have not been the subject of extensive treatment in the literature. Some scholarly works, mainly doctoral dissertations, have dealt with the subject,<sup>80</sup> but perusal of the Journal of Retailing and the Journal of Marketing yields very little on the topic. Even these few sources do not emphasize the historical perspective.<sup>81</sup> The limited number of sources may be explained by the short life originally attributed to the planned shopping center concept and by the fact that centers' close relationship to consumer mobility developed only after 1945.

The earliest operating "true" planned shopping centers were the Country Club Plaza, Kansas City, Missouri; North Gate Center, Seattle, Washington; Shoppers World, Farmington, Massachusetts; Evergreen Plaza, Chicago, Illinois; and Cross Country Center, Yonkers, New York.<sup>82</sup> The Urban

Land Institute, however, claims that in 1907 its president, Mr. Edward H. Bouton, "built an architecturally unified building for stores set back from the street. To convert this open space from providing for horse-drawn carriages to parking automobiles required only paving the front grass area and the carriage drive."<sup>83</sup>

The pioneering characteristics of Country Club Plaza, the first true shopping center, are linked to the innovative behavior of its builder, Jesse C. Nichols. During his European travels he observed several developments in modern cities in England which he decided to experiment with in the United States. In building Country Club Plaza, Nichols' idea was to create an outstanding shopping area which could provide facilities more profitable, more beautiful, and more convenient than those existing in CBD shopping areas.<sup>84</sup> It is interesting that, perhaps unintentionally, this developer incorporated several modern concepts of shopping center planning into his development: store mix planning, traffic control, free parking, analysis of the ratio between floor space and parking lot capacity, and trade area analysis. Gordon Stedman re-evaluated Country Club Plaza in 1955 and remarked that the parking lot, which originally was considered an "idealistic waste," had been expanded into a triple-decked design and yet still was insufficient to accommodate parking requirements.<sup>85</sup>

This brief historical sketch of the first American shopping center points out that this idea, which was conceived fifty years ago by innovators unafraid of risks and willing to depart from existing practices and patterns, has flourished into an outstanding and unique characteristic of the U.S. marketing system. The planning and building of shopping centers at that period anticipated the ecological characteristics of U.S. urban areas. As innovative ventures these experiences laid patterns for future developments and probably served as examples for impetus to changes in the planning and locational techniques of retailing which were expanded during the late thirties.

The movement toward shopping centers slackened during the Depression and almost ceased during the Second World War, due to economic factors in the first case, and car and gasoline shortages in the second. However, the gradual postwar increase in the size of urban areas and the range of product offerings again fostered the opportunity for shopping center growth. The shopping center itself became a downtown area around which a small new city could form.<sup>86</sup>

#### The Shopping Center Growth and its Causal Factors

Many of the causes of growth of the shopping center as a major component of the U.S. retailing



system have been mentioned briefly. At this point, special emphasis will be placed on the shopping center function as a major component of the retailing system.

In layout and design, the shopping center is the only form of retailing institution which simultaneously can accommodate all the changing characteristics of the modern retailing process. The shopping center may draw traffic from larger trade areas and, at the same time, offer sufficient parking in proper balance between retailing and parking space. Consequently, centers can operate on a scale adequate for the complexities and dimensions of mass retailing. Furthermore, because of their architectural features, these institutions are more adaptive than conventional stores, which may find themselves limited in space by the layout and design characteristics of their central locations.

Another important aspect is that centers can be adapted in the planning stage to the characteristics of the geographic region in which they are to be located. A wide gamut of design and store mixes is available to the developers. Contrary to downtown shopping districts, modern shopping centers may be created before an area has reached economic maturity, and they can be planned with allowances for future growth and expansion. This flexibility makes the centers much more responsive to changes in the surrounding areas than their central city counterparts.

Finally, since shopping center ownership is to some extent controlled, the hours of operation are more easily prescribed than in conventional multiple merchant clusters. The causal effect of centers operational features has been discussed previously.

Many of the factors mentioned here are common not only to the United States, but also may be observed abroad. Five years ago there was not one regional shopping center in Western Europe. Even Paris, with a population of 12 million including its suburbs, had none; but today, near Paris, stands PARLY 2, whose 700,000 square feet will make it the largest center in Europe when it is fully occupied.<sup>87</sup>

#### Effects of Shopping Centers Upon the Retailing System

The systems approach used in this dissertation also permits an evaluation of the overall effects of the shopping center upon retailing operations. A review of the literature suggests that this topic became a concern to retailing writers and theorists in the mid-fifties. Before this period the industry was still too new to offer any solid basis for discussion.

For the purposes of this dissertation the overall effects of shopping centers on the retailing system will be analyzed from three different perspectives:

(1) effects observed on previously existing retailing institutions; (2) changes in locational patterns of the

retailing system within the urban area; and (3) changes in buying habits due to the emergence of shopping centers. An understanding of these aspects of the U.S. shopping center will be useful in predicting future developments in Brazil.

In 1960 Eugene Kelley and Paul Smith pointed out that shopping centers and central business districts were competing retailing systems. They suggested that the complex interaction among their variables should be evaluated under a new approach, which they called "systems analysis."<sup>88</sup> These authors used such pioneering conceptual tools as the mutual relationship among clusters of stores, the flows within the system, and the input-output concept. Inputs to the system were merchandise, information, manpower, and equipment, while outputs were defined as the sales and profits generated by the system.<sup>89</sup> The systems analysis approach used in this seminal article indicated that an evaluation of the many variables which compose the system generally could be used to determine whether or not a system would be profitable, survive, and grow. In addition, the authors pointed out that systems analysis could be used successfully in evaluating either the then ten-year-old planned shopping centers or the thousand-year-old CBD, which had "evolved from trial and error experiences."<sup>90</sup>

Within the scheme of Kelley and Smith's systems analysis, several effects in the retailing system may be related to the emergence of shopping centers. The centers attracted business from existing stores and established a definite trade area in which the probability of selling to existing households was higher than that of the scattered retailing clusters or the CBD. This effect is closely related with another--the generic deterioration of central city retailing.

Because centers were planned in accordance with the specific characteristics and potential of a certain expected or target trade area, the merchandising patterns became much more formal than in the previous organizational settings. This characteristic changed somewhat the general trend toward scrambling merchandise then prevalent in so-called non-shopping center retailing.

Another interesting and relevant effect of the shopping center movement was the creation of a higher degree of solidarity among downtown retailers. In the mid-fifties and early sixties they initiated joint promotions and a general effort to rehabilitate downtown trade, which, despite nominal growth, was losing business to noncentralized institutions located mainly in planned centers.<sup>91</sup>

The most important effect of centers on locational patterns was the change it produced in the overall shape of urban areas. As will be discussed later, shopping centers were able to transform urban structures from the usual concentric, star, and sector shapes into the now common polynuclear urban pattern.<sup>92</sup> It is toward these newly formed nuclei that cities' social and economic lives have begun to gravitate. These centers act as poles of attraction and have become a primary factor in the increasing trend toward decentralization. Because of the integrated merchandising plans of most shopping centers, the areas around them are, in some instances, self-sufficient in terms of retailing, which is leading to continued decentralization. These characteristics, which today are a common part of the U.S. scene, were observed by William Applebaum and Saul Cohen as early as 1961.<sup>93</sup>

The shopping center also has had a substantive effect in relation to changes in the specific place where purchases are made; more specifically, it has been an extremely powerful factor in changing buying habits. In his dissertation, which was published in 1956 in a series of three articles in the Journal of Retailing, Gordon H. Stedman reported that following the rise of the shopping center, there was an increased tendency among urban shoppers to change their purchase locale. What seems even more important, after this change took place,

shoppers developed a certain degree of preference and loyalty for the chosen new center.<sup>94</sup>

In research conducted in New York in the late fifties, T. Dart Ellsworth and associates made similar findings. Studies made in eight centers appeared to indicate that centers were able to increase the purchase rate per customer. Furthermore, because of family shopping trips, the shopping basket was more diversified than in similar trips to the CBD.<sup>95</sup> Charles Hindersman analyzed the impact of centers in a large metropolitan area. He claimed that they were the reason for reduced sales in the downtown area and had become the preferred place for women's and men's apparel purchases.<sup>96</sup>

Obviously, shopping centers have had a definite impact on U.S. retailing. Evidence indicates that these institutions are a peculiar and well-established characteristic of the U.S. distribution system and that they have changed the profile of the urban structure and the buying habits of Americans.

#### Taxonomy of Shopping Centers

The classification of shopping centers into several categories and according to different operational characteristics is undertaken here in order to explain the relationships of the diverse categories or types of centers to the retailing process in a specific trade area. Thus,



the classification will be made from an interactive rather than merely a descriptive perspective. A formal inquiry into the taxonomy of centers shows that marketing objectives are the independent variables in the planning of a center, whereas the physical dimensions can be considered as dependent variables.

Each of the characteristics which define a center have a relevant effect upon the retailing system of a certain region. By the same token, they are fundamental to an explanation and evaluation of the functions and dimensions of a center's impact relative to its trade area. The systemic approach used in this dissertation also requires a complete evaluation of the operational characteristics of the retailing institutions, since these will serve as parameters for the recommendation of shopping center sizes in specific locations within the Greater S. Paulo Metropolitan Area.

Operational Characteristics.--A taxonomy of centers also will permit an overview of how these institutions have been perceived during various stages of development by different authors in marketing literature. In addition, the taxonomic approach will seek to classify centers in terms of relevant operational characteristics such as size, site design, parking, store mix, and so forth. It is these variables which function as inputs to the subsystem which enable the analyst to

predict what types and dimensions of trade areas will be compatible with the system to receive a set of adequate outputs from it. Finally, the taxonomy can provide parameters within which to plan a shopping center's dimensions. It is obvious that these dimensions are inputs, or costs; outputs are the centers' sales volumes, or revenues. Therefore, the positive balance between costs and revenues relative to potential are enhanced when one can establish in advance the operational dimensions of a center in relation to its market.

Accordingly, a shopping center may be classified by its operational characteristics, by other physical dimensions, and relative to its location within the urban area. For each of these general descriptors there are specific measurement criteria which may be applied in order to make the process of classification orderly and meaningful. Table 2 displays the major descriptors and their respective measurement criteria. The interaction among the descriptors at different levels dictated by the measurements will indicate the diverse types of centers. Table 2 was developed from extensive research of existing technical information on the shopping center industry and seems to represent a synthesis of the accepted criteria for classifying centers.

TABLE 2.--Shopping Center Descriptors Basic Classification Criteria.

| Descriptor | Classification Criteria  | Principal S.C. Types  |
|------------|--|---|
| Size       | Building area given in square feet on one or more levels; sometimes given in terms of gross rentable area. Building area is used for quoting building costs, whereas rentable area is used to assess rental fees.  | Regional Community Neighborhood   |
| Site       | Shape and dimensions of the land lot in which the center is built given in <u>acres</u> . For site evaluation the following points are to be taken into consideration: size, topography, shape, zoning, cost, surrounding population, accessibility, and auto-mobile traffic. <sup>a</sup> | Regional (40 acres)<br>Community (15 acres)<br>Neighborhood (5 acres)   |
| Design     | Architectural features such as one floor or multiple floors. The basic shape of the main building and the relative position of the diverse edifices is considered (see Figures 4, 5 and 6).  | Strip<br>L - Shape<br>T - Shape<br>U - Shape<br><br>Open Mall, Closed Mall<br>Cluster, Hub<br>Court or Precinct |
| Parking    | Size of the parking lot, number of parking spaces, parking ratio, parking index, and lay-out are the major criteria for measurement.   | Regional - (3000+)<br>parking spaces.<br>Community - (+1000)<br>parking spaces                                  |

TABLE 2.--Continued.

| Descriptor                             | Classification Criteria   | Principal S.C. Types   |
|--|---|--|
|  | <p>Parking ratio = <math>\frac{\text{Area of Parking Lot}}{\text{Building Area}}</math></p> <p>Parking Index = <math>\frac{\text{No. of Parking Spaces}}{1000 \text{ sq. ft. of rental area}}</math><sup>b</sup></p> <p>Angle Parking 90°, 60°, and 45°</p>       | Neighborhood ( $\pm 200$ )<br>Parking spaces <sup>c</sup>  |
| Store Mix                              | The key dimension is the determination of the major tenant. A comprehensive evaluation also requires analysis of the number of stores and the percentage of rental area allocated to each class of retailing line, such as mens' apparel, candy and music stores. | Regional - S.C. major tenant is a full line dept. store.<br>Community - S.C. major tenant junior is a dept. store.<br>Neighborhood - Super-market. |
| Product Mix                            | Refers to the control of merchandising policy in the center. Each major merchant may not sell merchandise other than that mentioned in the leasing agreement.   | Controlled<br>Noncontrolled  |
| Location in Relation to The Urban Area | Indicates the location of the center relative to its position within the urban area, which may include a central core, outlying districts, and suburban areas.  | Central or Downtown<br>Suburban<br>Free Standing   |

TABLE 2.--Continued.

| Descriptor                            | Classification Criteria  | Principal S.C. Types   |
|---------------------------------------|--|--|
| Location in Relation to Road Net-work | Given by the proximity of the center to a road and the type of road. The traffic characteristics, speed, and range of the adjacent roads will influence the center's patronage.  | Axial Road<br>Residential Street<br>Intersection<br>Highway  |
| Drawing Power                         | <p>Indicates the distance and driving time of customers patronizing a center and may be expressed by the following function:</p> $D_p = f(D_t, D_d)$ <p>where <math>D_p</math> = Drawing Power<br/> <math>D_t</math> = Driving Time<br/> <math>D_d</math> = Driving Distance</p> <p>This concept is of extreme importance because from its determination it is possible to define the size and perimeters of the trade area. According to the traffic characteristics, various customers may reach a center within equal driving time although coming from different distances; the driving time variable seems to be the dominant variable in identifying a trade area.</p> | Varies from center to center according to the characteristics of the existing road network and the size of the center. |

TABLE 2.--Continued.

| Descriptor | Classification Criteria  | Principal S.C. Types   |
|------------|--|--|
| Trade Area | Results from the drawing power and is defined in terms of the size of the geographic region from which a center draws its customers. A trade area can be divided into three subareas as follows: (1) Primary Trade Area = 60-80 percent of total sales; (2) Secondary Trade Area = 15-25 percent of total sales; and (3) Tertiary Trade Area = 5-10 percent of total sales. <sup>d</sup> | Variable from S.C. to S.C. according to the drawing power which is function of driving time, driving distance and size of the S.C. |

<sup>a</sup>The areas mentioned in the table are averages found by Jones, Regional Shopping Centers, p. 181.

<sup>b</sup>The parking index is a much more operational measurement than the parking ratio, which is used only for planning purposes. The parking index reflects the exact relationship between retailing areas and parking lot capacity. For example, shopping center X, with 500 parking spaces and 120,000 square feet of rental area, will have the following parking index:

$$\text{Parking Index} = \frac{\text{No. Car Spaces}}{\text{Total Rental Area}} = \frac{500 \text{ car spaces}}{120,000 \text{ sq. ft.}} = \frac{500}{120} = \frac{1000 \text{ sq. ft.}}{1000 \text{ sq. ft.}}$$

$$4.16 = 4.16 \text{ car spaces per } 1000 \text{ sq. ft. of rental area.}$$

<sup>c</sup>The parking lot capacity mentioned in the table is an average since it may vary from center to center, and there is a tendency to increase the size of the parking lots in modern centers.<sup>97</sup>

<sup>d</sup>From I. V. Five, "Retail Trade Area Analysis," Wisconsin Commerce Papers No. 1 (6) (Madison: Bureau of Business Research and Service, University of Wisconsin, 1954), pp. 10-12.



Other Classificatory Schemes.--Before elaborating a formal and generic classification, one should examine the contributions on the subject in marketing literature. The major work in this area comes from marketing scholars, architects, urban planners, and geographers through their research on retailing locations, decentralization, and the evolution of retailing institutions.

In 1949 Mertes stressed the degree of control as the relevant factor for classifying centers, thus his two categories, uncontrolled and controlled centers.<sup>98</sup> Geoffrey Baker and Bruno Funaro made a comprehensive analysis of existing centers in 1951, but from an architectural and physical design perspective. Only the size and store mix dimensions were used in discussing the three categories of centers mentioned in their work, namely, neighborhood, community, and regional centers.<sup>99</sup>

In his classic study of retail location published in 1958, Nelson indicated there were two categories of centers: convenience and shoppers' goods. He also pointed out that the most logical basis for classifying centers was in terms of the kinds of goods purveyed and the types of stores which the centers contain.<sup>100</sup> Nelson argued that the most frequently employed method of classification, which used size and characteristics of the trade area, was misleading because of the difficulties in identifying

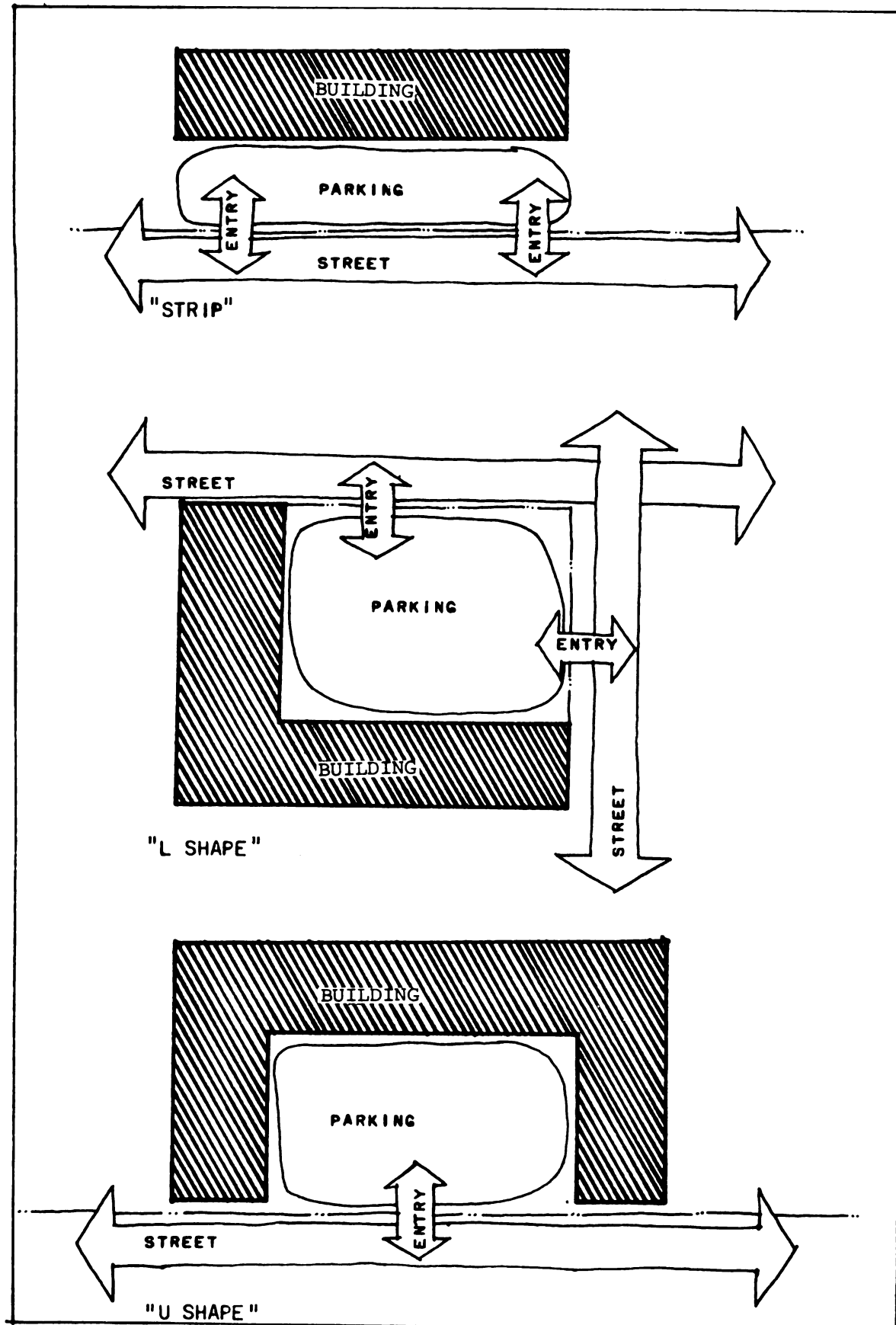


FIGURE 4  
BASIC SHOPPING CENTER DESIGNS

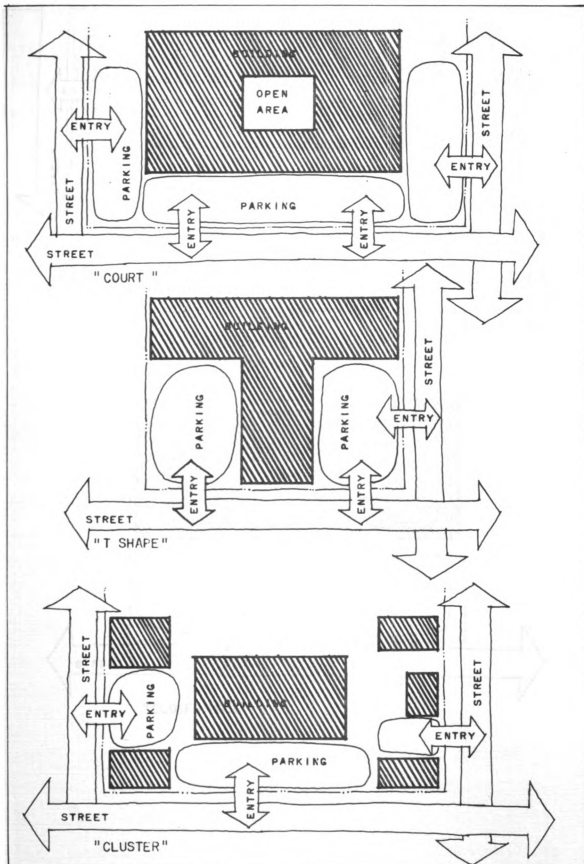


FIGURE 5  
BASIC SHOPPING CENTER DESIGNS

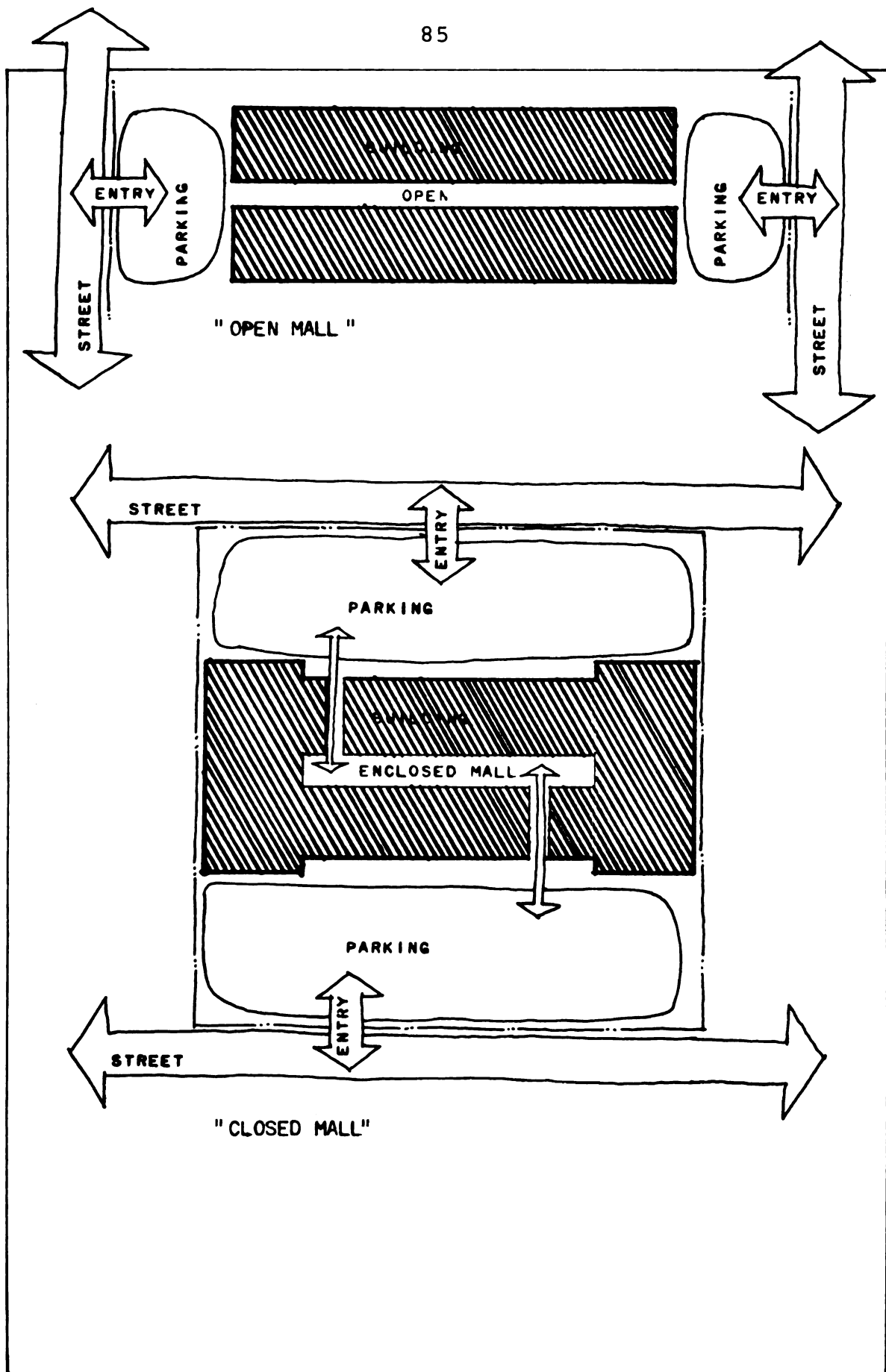


FIGURE 6  
BASIC SHOPPING CENTER DESIGNS

such characteristics.<sup>101</sup> Nelson's statement was made at a time when quantitative tools for evaluating marketing activities were not as developed as today.

In 1960, in their fundamental "Shopping Town-USA," Victor Gruen and Larry Smith showed that the relevant characteristic for classifying a center was the identification of the major tenant. According to them, a neighborhood center's major tenant was a supermarket; the community center was identified by a junior department store; and the regional center by one or more major (full line) department stores.<sup>101</sup> In his dissertation Eugene Kelley made a complete analysis of shopping center characteristics and emphasized the planned and unplanned differences as major dimensions of classification. Kelley has stated that the morphologic aspects of centers are not as important in classification as the functional dimensions.<sup>103</sup> In 1960 Emmet performed an integrated classification of centers using information from other authors and diverse official sources. His work was a substantial contribution because of the ranges covered and because he made it possible to classify centers with different physical dimensions.<sup>104</sup>

The Urban Land Institute offered a complete study with a list of indicators for types and sizes of centers in 1968. The following indicators were mentioned: leading tenant, gross leasable area and its parameters, usual minimum gross leasable area, and minimum population

support.<sup>105</sup> A recent study by Joseph De Chiara and Lee Koppellman points out the physical dimensions which the centers must have in order to be included in one of the three major categories.<sup>106</sup> The ULI's criteria and those of De Chiara and Koppellman will be the basis for the classificatory framework used for analytical purposes in this dissertation.

Physical Dimensions.--The physical classificatory dimensions which will be used in the analysis are formally presented in Table 3. The extensive and detailed taxonomy of shopping centers shown in that table seem to indicate that these institutions follow a defined pattern in the United States; this pattern determines the functions performed by these centers within the retailing system and, more specifically, the nature of the trade area. This framework will be used later, not only for comparative purposes, but also to develop the basic structure of the centers which can be recommended for the GSPMA. Taken into consideration will be the necessary modifications and adaptations for a geographic region which has different socioeconomic descriptors. However, this dissertation's premise is that, despite differences in the level of economic development and environmental factors, the functional characteristics and main objectives of certain institutions remain quite similar.

TABLE 3.--Shopping Center Taxonomy. Basic Types--Criteria Physical Dimensions and Functional Characteristics.

| Criteria   | Neighborhood Shopping Center           |  |
|--|--|--|
|  | Minimum                                | Maximum                                |
| 1. Population Served   | 2,500 persons<br>800 households        | 5,000 persons<br>1,600 households      |
| 2. Floor Area required (Sales Area)                          | 20 sq.f./household =<br>16,000 sq. ft. | 18 sq.f./household =<br>28,800 sq. ft. |
| 3. Customer Parking Area (2:1)                               | 32,000 sq. ft.                         | 57,600 sq. ft.                         |
| 4. Circulation Service and Planting Areas (25%) <sup>a</sup> | 12,000 sq. ft.                         | 36,400 sq. ft.                         |
| 5. Total Square feet   | 60,000 sq. ft./                        | 172,800 sq. ft./                       |
| 6. Total Acres Required                                      | 1.4 acres                              | 4.0 acres                              |
| 7. Square feet Household (gross)                             | 75 sq. ft.                             | 100 sq. ft.                            |
| 8. Max. Distance   | 1/4 mile                               | 1/2 mile                               |
| 9. Leading Tenant  | Supermarket                            | Idem                                   |



TABLE 3.--Continued.

| Criteria  | Neighborhood Shopping Center                 |   |
|---|--|---|
|   | Minimum                                      | Maximum                                       |
| 10. Number of Stores <sup>b</sup>                             | 5 (±)  | 20 (±)  |
| 11. Parking Requirements (cars spaces) <sup>b</sup>           | 80 (±)                                       | 150 (±)                                       |
| 12. Location  | Commercial Axis or intersection              | Idem  |
| Community Shopping Center                                     |  |   |
| 1. Population Served  | 40,000 persons<br>12,000 - 13,000 households | 100,000 persons<br>30,000 - 32,000 households |
| 2. Floor Area Required (Sales Area)                           | 8 1/3 sq. ft./household = 100,000 sq.ft.     | 6 2/3 sq.ft./household = 200,000 sq. ft.      |
| 3. Customer Parking Area (3:1)                                | 300,000 sq. ft.                              | 600,000 sq. ft.                               |
| 4. Circulation, Service and Planting Areas (25%) <sup>a</sup> | 100,000 sq. ft.                              | 200,000 sq. ft.                               |

TABLE 3.--Continued.

| Criteria   | Community Shopping Center                  |                                      |
|--|--|--------------------------------------|
|  | Minimum                                    | Maximum                              |
| 5. Total Square Feet                               | 500,000 sq.ft.                             | 1,000,000 sq. ft.                    |
| 6. Total Acres Required                            | 10 - 12 acres                              | 20 - 24 acres                        |
| 7. Square Feet/Household (gross)                   | 38 - 42 sq. ft.                            | 32 - 36 sq. ft.                      |
| 8. Max. Distance                                   | 1 mile walk<br>15 minutes drive            | 1 1/2 miles walk<br>30 minutes Drive |
| 9. Leading Tenant                                  | Variety Store or Junior Department         | Idem or both                         |
| 10. Number of Stores <sup>b</sup>                  | 15 (±)                                     | 40 (±)                               |
| 11. Parking Requirements (Car spaces) <sup>b</sup> | 750 (±)                                    | 1500 (±)                             |
| 12. Location                                       | Intersection of major road or express ways | Idem                                 |

TABLE 3.--Continued.

| Criteria  | Regional Shopping Center                    |   |
|---|---|---|
|   | Minimum                                     | Maximum                                     |
| 1. Population Served  | 100,000 persons<br>30,000-32,000 households | 250,000 persons<br>75,000-80,000 households |
| 2. Floor Area Required (Sales Area)                           | 6 2/3 sq. ft./household.<br>200,000 sq.ft.  | 6 2/3 sq. ft./household<br>500,000 sq.ft.   |
| 3. Customer Parking Area (4:1)                                | 800,000 sq. ft.                             | 2,000,000 sq. ft.                           |
| 4. Circulation, Service and Planting Areas (25%) <sup>a</sup> | 250,000 sq. ft.                             | 600,000 sq. ft.                             |
| 5. Total Square Feet  | 1,250,000 sq. ft.                           | 3,100,000 sq. ft.                           |
| 6. Total Acres Required                                       | 30 - 36 Acres                               | 50 or more acres                            |
| 7. Square Feet/Household (gross)                              | 39 - 42 sq. ft.                             | 39 - 41 sq. ft.                             |
| 8. Max. Distance  | 1 mile walk<br>30 minutes drive             | 1 1/2 mile walk<br>60 minutes Drive         |

TABLE 3.--Continued.

| Criteria   | Regional Shopping Center                |  |
|--|---|--|
|  | Minimum                                 | Maximum                                      |
| 9. Leading Tenant                                  | Major Department Store                  | Idem or more than one major department store |
| 10. Number of Stores <sup>b</sup>                  | 40 ( $\pm$ )                            | 80 ( $\pm$ )                                 |
| 11. Parking Requirements (Car spaces) <sup>b</sup> | 2000 ( $\pm$ )                          | 5,000 ( $\pm$ )                              |
| 12. Location                                       | Intersection of express way or freeways | Idem   |

Source: Adapted from De Chiara and Koppelman, and from data of the U.L.I. Community Builders Handbook (1968).

Note: The differences in floor area requirement per household which may be observed in the Table are related to the nature of the merchandise carried by the center and are due to the fact that neighborhood centers are likely to have a higher frequency of visits.

<sup>a</sup>The circulation service and planting areas are equal to 25 per cent of the floor area required plus the customer parking area.

<sup>b</sup>The number of stores and parking requirements are approximated parameters which may vary from center to center.

### Future Trends

Crystal ball gazing is not an easy task when dealing with a complex system such as retailing, especially one which operates within the dynamic milieu of the urban area which faces the continuous impact of changing social values and living habits. The task of discussing the future of shopping centers must be done from a dialectical perspective. The subject must be approached from a broader point of view than a simplistic analysis which would only furnish estimates regarding the eventual rise or decline in the number of centers in the United States.

Trends in the United States.--First, the problem will be examined from the U.S. perspective. In the United States, shopping centers now are a definite part of the fabric of urban life and a stable component of the retailing distributive process, and they will remain so. The eventual growth or decline in the absolute number of units will depend, of course, upon trends in urbanization of existing cities or in the creation of new cities. A future decline in the number of urban central areas is expected, and the possibilities of CBD renewal seem unlikely since the ecological movement will stress the avoidance of crowded areas and overpopulated central traffic routes.<sup>107</sup> With few exceptions, it seems most probable that the decentralization trend will continue and that future institutions will be planned and specially designed stores located at urban peripheries in integrated shopping centers.

The changes in existing centers will depend on the impact of technology and its effects on social values and attitudes. It is clear that shopping centers as entities must understand the interplay of sociological and technological trends. They must face such problems as new product and service expectations, new ideas about how the customers will want to use his shopping time, and the prospective impact of at-home shopping. Eugene Beem predicts at least two major changes in retailing: (1) probable increase in the importance of certain specialty goods stores, and (2) a possible decline of convenience goods stores because of the possibility of at-home shopping and direct delivery.<sup>108</sup>

If these developments occur, it is foreseeable that shopping centers will have fewer supermarkets and drug stores and more specialty stores selling within very specialized patterns. The most serious threat may be at-home shopping. Long-distance shopping devices and the possibilities of tele-electronic data processing would allow for extra convenience in home shopping; despite the proximity of centers and the availability of parking, the selection of merchandise at home and automatic delivery would be, by far, a faster alternative. Even if at-home shopping develops, however, many shopping and specialty goods will continue to be purchased at shopping centers.<sup>109</sup> If the at-home shopping concept does not come about due to technological constraints, there are other predictable changes

during the next ten years, most of which would affect the existing shopping center structure.

E. B. Weiss believes an increase in automobile shopping is conceivable by 1975. "Retail stores of various types will be laid out so as to permit shoppers to drive right into the store to do split-second shopping without getting out of the car."<sup>110</sup> If this possibility materializes, the impact on shopping centers would be interesting; certain stores, instead of parking spaces, would require runways to provide waiting space for customers. To operationalize this idea, adjustments in the merchandising and checkout processes would be necessary. Due to the rising cost of prime locations, Weiss's predictions are not inconceivable; future centers may be multilevel designs, with multilevel department stores and parking facilities.<sup>111</sup>

Another trend in the retailing system is the emergence of conglomerated stores, which offer food and durable goods in a single location. These institutions, because of their narrow margins, need economies of scale to reduce costs, and they require large selling areas. If centers continue their expansion into suburban areas, modifications in their actual design and tenant mix patterns will be necessary.<sup>112</sup>



Up to this point, the discussion was focused on operational changes in future centers and on the requisite adjustments they probably will have to make in their structures and physical design. However, environmental changes and modifications also may alter the configuration of shopping centers. The so-called ecological concern will change population distribution and mobility over space. It is very unlikely that cities will continue to grow in monolithic blocks; future interurbia will be conurbations of self-sufficient socioeconomic areas which will require centers suited to their specific dimensions. Hopefully, centers will be designed in such a way that they will adjust to environmental characteristics and will not mar the environment with massive blocks of concrete and steel. These institutions would be expected to be sensitive to their surroundings. Achievement of such a state of affairs would require not only modifications in applied technology, but also changes in the organizational behavior of retailing system components: retailers, developers, shopping center owners, and real estate companies.

Trends Outside the United States.--The future of shopping centers in other countries will follow the U.S. pattern with the necessary adjustments to environmental differences. As Colin S. Jones states, the variations between U.S. centers and those in other countries "stem from the time elapsed [or time lag] between the

relative growth of retailing in each country, rather than from great variations in [permissive] conditions."<sup>113</sup> Consequently, it is realistic to presume that in the more developed areas of Brazil there is sufficient economic maturity to allow for the emergence and growth of shopping centers.

The areas in which these new institutions will emerge are apt to be more advanced than other parts of the country and are likely to display economic descriptors similar to those of the United States. Obviously, all conditions are not identical; for example, the automobile ownership rate is lower in Brazil, the costs of retailing operations vary, and rents and construction costs tend to be higher in absolute and comparative terms. These differences do not preclude the development of centers, but they will serve as guidelines and limitations. The center, as will be demonstrated later, will be a partial, but powerful, means to solve such urban problems as congestion, the high mortality rate among retailing stores, and satisfaction of basic consumer needs.

As the automobile industry matures, as income levels rise, and as telecommunications improve, the shopping center will represent a logical and efficient means for planning retailing distribution over space, not only in large metropolitan areas such as S. Paulo,

but also in smaller cities in the progressive southern states of Brazil. In larger cities where crowded conditions already exist, these institutions will operate as ex post facto solutions to the urban crisis. In growing but smaller cities the planned use of shopping centers will avoid the ill effects of older retailing locational patterns.

### Spatial Dimensions of the Retailing System

In order to overcome spatial differences between the point of production and the point of consumption, the retailing system both moves goods and attempts to attract customers to its locations; these two activities, which belong to the basic obtaining and servicing demand functions, generate flows within an urban area. The dynamics of this process are linked not only with the components of the retailing system, as such, but also affect all the other activities of the urban society, such as living conditions, housing locations, industrial activities, use of land, and so forth. An analysis of these phenomena will be made here because it is a basic premise of this dissertation that there is a mutual interaction between the retailing system and the conditions in the urban environment.

In its initial stage, the retailing system follows the trends and patterns of the city. However, as it grows and as the urban system modifies, retailing may shift its

locations. As a natural consequence, the structure and direction of movements of people and goods within the urban area are altered. It is difficult to pinpoint the exact initial and terminal points of this phenomenon since locational changes affect the fabric of the city. For example, areas with low household and traffic density may become crowded and congested and require new locations either for housing or for trade. Nevertheless, with a better understanding of the urban system and an application of a higher level of location theory, it is conceivable that some of the uncertainty and ill-effects mentioned above can be reduced or minimized in existing areas, or may be avoided altogether in newly developed regions.

There seems, then, to be a strong reason to examine a wide set of analytical tools in relation to this subject; they will be required later in developing the normative parts of this dissertation and, of course, will be used for application purposes. The remainder of this chapter will be structured along the following lines.

1. The urban system will examine the city as a result of evolutive urban patterns. Theoretical contributions will be viewed with an emphasis on the role of the retailing process as a force affecting urban dynamics and the characteristics of the urban fabric.
2. The retailing system within urban space will analyze how retailing is spread over the urban

space. Trade area concepts and dynamics, theories of retailing location, and models for evaluating trade areas will be examined.

The analysis will follow the systemic approach used previously.

### The Urban System

Cities exist within the ill-defined contours of the urban system. In order to evaluate cities' characteristics and to attempt a brief, meaningful classification of cities in terms of their external and internal orientation, it first is necessary to discuss the nature of the urban system. Jay Forrester conceives of this system in a very theoretical and abstract form. Although his seminal concepts are operationally lacking, they can serve as a useful framework.<sup>114</sup>

### Forrester's Urban Dynamics

According to Forrester, the urban system may be defined as a high-order, complex-multiple-loop, and non-linear feedback structure which acts within a limitless environment.<sup>115</sup> High-order refers to its large number of variables; multiple-loop implies not only numerous variables, but also relations among them; and nonlinear feedback is used to indicate that the rates of transformation within the structure for a given set of inputs do not produce linear (linear equation) outputs in many situations.

Forrester states that the urban system acts within and is part of a limitless environment in which an extensive set of interchanges can occur. If, for example, an urban

system is attractive, it is able to draw people from the external environment; if it is unattractive, the opposite is true. Since there are large relative differences in size between the urban system and the external environment, it is very unlikely that the urban system will affect the environmental equilibrium except in the special situation where an urban area has the major percentage of the total land space.<sup>116</sup> Forrester's multiple-loop characteristic also may explain why an existing road network can be a leading factor in the development of housing and shopping centers at one point, but later may become insufficient due to an increase in traffic in the area.

The foremost value of Forrester's scheme is that it permits conception of the city within the urban system as an entity and as a vital expression of the operation of that system. The city is contained within the system although its boundaries may be defined in several ways: political limits, levels of population density, major socioeconomic activities, and so forth.<sup>117</sup>

The several and highly specialized activities which occur within cities dictates their form, their growth, and even their problems. It is not rare to observe cities growing across their political and official spatial boundaries. It also is possible for man-made institutions to alter the characteristics of a previously stable city, thus requiring adjustments in its natural and unplanned growth pattern.<sup>118</sup> Such ecological adjustments pertain to

the system and definitely cannot be considered simple, independent, and random outcomes of the city's life. Programs to aid ecological adjustments may be passive, may be "normative social action," or, a third type, which are preventive, may lead to the solution of urban problems. This latter approach avoids the determinism of some ecologists, who contend that certain areas and portions of the city must display lower levels of quality of life and that nothing can be done to avoid this trend. Indeed, the low quality of life is one of the most crucial aspects of modern cities. A contributing cause may be the poor locations of retailing institutions which reduce leisure time, increase traffic congestion, add to total distribution costs, and so forth.

These phenomena exist also because planners, marketers, and other responsible individuals did not take into consideration that, in some cases, the location of trade is more important to the movement of people and goods than other urban flows such as the movements toward working and housing areas which are routinized.<sup>120</sup> But because the movement toward trade is erratic and random, it requires more urban space. However, if location principles are used, these movements can be diverted to a central place which will service the entire trade area.

In order to be able to locate retailing institutions properly, one first must have solid information about the urban system's structure and the functional aspects of the city. In the second stage the output of the evaluation of



the urban system is used as a basis for application of the models derived from location theory. Therefore, it is necessary to discuss the urban structure before focusing on the cities, their evolution, and their patterns as related to the retailing process.

### The Hinge Factor

The change from a concentric city pattern to a polynuclear urban complex has been examined by Jean Gottman. He points out that this trend is observable in several areas in the United States and in other parts of the world,<sup>121</sup> and cites the hinge factor as the most important causal variable in the emergence of large metropolitan areas.<sup>122</sup> This factor refers to the role a city performs in relation to its surrounding areas in terms of political, manufacturing, commercial, and financial activities. Due to these multivariant activities and the needs for extensive movement and a great deal of specialization, cities displaying the hinge factor are likely to expand over suburbs, initially following the transversal axis and then the directions of railroads and highways. This process is occurring in the GSPMA; adjacent cities are being aggregated and formed into a monolithic urban block.

### City Structure

The urban system's main goal is to mold man's environment, to realize his aspirations.<sup>123</sup> More pragmatically, this statement may be translated into normative policies in

urban planning which may include regulations concerning land use, the location of specialized activities, or the structure of the street network within the urban space.

Obviously, these policies are higher-order issues compared to retailing location and, more specifically, the expression and formulation of norms for site selection of decentralized retailing centers. However, it seems clear that the total organization of the lower-order system must follow the general patterns of the higher. In sum, as a personal value statement, the retailing structure of a city must be organized and designed in such a way that it will further the achievement of the city's central goals, namely, freedom to live in adequate housing, freedom to work at chosen locations, and freedom to buy where it is more convenient. This ideal state of affairs at least may be approximated through mutual effort and a certain degree of compatibility between urban planning and retailing activities.

Among the goals of the urban system, one of the most important in terms of the present analysis is the sound planning and design of the city and its road network. The retailing system must perform its normal functions within the constraints of location and design features. To arrive at wise decisions in the search for compatible and lucrative locations, the retailer and

others involved must analyze the nature of the city. To do so, they must examine the city and its component elements.

In their classic article,<sup>124</sup> Chauncy Harris and Edward Ullman describe two major aspects of cities: external characteristics and internal structure. In examining the former, in relation to locational patterns and major functions, the authors attempted a descriptive taxonomy of the following city types: (1) cities as central places; (2) cities as transportation centers; and (3) cities as specialized service centers. The most important contribution of this analysis was its effort to generalize the structural nature of urban areas; at the same time it raised the point that modern metropolises present a hybrid configuration, a blending of the three pure forms suggested by the authors.

To clarify the internal structure, a simple but rational framework was proposed: (1) axial growth theory (developed by Richard Hurd); (2) the concentric zones theory (proposed by Ernest Burgess); (3) the sector theory (developed by Homer Hoyt); and (4) the multiple nuclei theory (conceived by Ullman and Harris). These four categories represent generalizations regarding patterns of land use.

Harris and Ullman noted that varying combinations of these three patterns may be occurring within large metropolitan areas today.<sup>125</sup> This phenomenon makes the analysis

of city structure more complex, on the one hand, but, on the other, it permits a better understanding of the structural characteristics of urban land for retailing location purposes.

### The City Fabric

#### External Characteristics

Only those external characteristics which bear some relationship to the objectives of this thesis will be evaluated. Among these, the city as a central place concept seems relevant. Simultaneously, it can explain both the interaction of cities within their relative position in a geographic space and the degree of central place functions to be performed within their boundaries. A city of a higher hierarchical level is assumed to have a wider range of retail institutions, since the greater the centrality of the city, the higher the order of goods and services that can be provided and the larger the population trade area.<sup>126</sup> Because shopping centers also are high hierarchy central places, it is understandable why the opportunity for a large number of centers of different sizes exists within a metropolis.

Some cities also function as transport centers. This factor has only minor implications for the location

of retailing institutions, since these institutions are oriented to serving local and not regional trade. The relevance, if any, lies in the location of commercial clusters at the intersection of principal and minor axes; the major axis is the center for transportation activities.<sup>127</sup> This is the well-known Aspinwall rule of uniformity and is no longer widely applicable because of the impact of the automobile and the size of modern metropolises.

Another external characteristic of cities is that they may be the locus of very specialized services or activities. This is a dominant force in shaping city structure since housing and trading subareas follow the basic patterns set forth by the major activities. An example of this phenomenon is the location of trade and housing in Washington, D.C., a city which was planned around its major activity, government. Location studies emphasize not only the places where people live, but also their movement toward the city's major service areas.

### Internal Characteristics

Internal characteristics, which are related to the shape of cities and their morphologic features, are explained by the four basic theories previously mentioned. Despite the changes that modern technology has brought to the structural typology of urban areas since they were written, these

theories may serve as a solid basis for initial discussion. It is worthwhile to note that they have been used in almost every analysis of the functions of retailing institutions and in trade area evaluations.

By way of introduction, one can say that ecology and its forces shape a city's structure; its specific internal dimensions result from the socioeconomic interaction of specialized groups over space and at different periods of time. The morphologic characteristics of cities after they mature, which may require a century or five decades, place definite constraints on urban activities. Accordingly, every action or program concerned with the planning and location of specialized retailing establishments must begin with a consideration of a city's morphologic patterns.

The following theories were developed in the early decades of this century. The authors were mainly interested in the generic explanation of urban land use, and none of them focus particularly on retail trade area location or on the phenomena related to retailing decentralization. However, their theoretical framework is extremely useful for explaining changes in urban structure and why some retailing areas have been developed within urban limits.

Hurd: The Theory of Axial Growth.<sup>128</sup>--As early as 1903, Richard Hurd pointed out that urban development spreads out from the city's center, following the routes of transportation lines, thus creating an octopus or star shape.<sup>129</sup> As time passes, land between the original axes is occupied, but the basic shape remains. New communities are likely to emerge in the vicinity of external terminals or interchanges with secondary roads; in cities where the automobile has been used with frequency, the pattern follows major highway routes.

For the purposes of this thesis it is interesting to observe that commercial strips and dispersed store clusters along these axial routes have been a constant, principally in areas where people could shop after or during commuting to work. An observation of suburbs in countries like Brazil, which has low car ownership, indicates this pattern in some cases. Housing, followed by minor commercial centers, is then within walking distance of railroad stations.<sup>130</sup> Many of the largest metropolitan areas were formed prior to the impact of the automobile industry, and therefore their internal structure is compatible with Hurd's theory.

One of the basic limitations of Hurd's axial growth model is that he comments neither on the originating factors nor on the activities which take place during the pioneer period. As noted before, his concerns were oriented more with the ways in which urban land was occupied and how empty spaces between the axes became urbanized.

Burgess: The Concentric Zone Theory.--Ernest

Burgess's theoretical framework is probably the most widely used in urban ecology studies and research in related disciplines.<sup>131</sup> His concentric zone hypothesis proposes that cities are configured in multiple circle patterns; in each circle occur a series of specialized activities which dictate the physical characteristics of housing and land use within them. The entire scheme conceives of cities as divided into five land use zones.

Zone 1. The central zone in almost every urban area is the commercial core where numerous activities occur during the day, but relatively few at night.<sup>132</sup> In this zone are concentrated mass transportation terminals, public recreation buildings, and civic centers.

Zone 2. In the so-called transition zone, due to the mixing of commercial transportation and old industrial activities, the blight of early residential units takes place. It is increasingly occupied by newcomers and



immigrants, dwelling units are used by more than one family, and building maintenance is low because rent value constantly declines. Zone 2 contains mostly convenience stores with limited product offerings; small and decaying independent merchants keep their own stores, but the shops' mortality rate is high. The process tends to be reinforced by the continued operation of larger retailing units in the central core and by the emergence of modern and more efficient institutions in outlying regions.<sup>133</sup>

Zone 3. The low class residential area or zone of independent working men's homes is, according to Peter Salins, essentially composed of modest and dense housing occupied by what some have called the "respectable poor." Commercial activity in this area is not very significant since the inhabitants have more mobility to shop in the CBD or at shopping centers.

Zone 4. The zone of better residences or the middle-class area, houses small businessmen, professional people, and clerks who live in single dwelling units or apartments interspersed with shopping centers.<sup>134</sup> Most retailing activities are located here, an outgrowth of the trends toward decentralization and the rise of dormitory suburbs.

Zone 5. Burgess labeled Zone 5 the commuters zone, or area of high-class residences. It is characterized by expensive houses located along major

roads and railway lines. It is apparent that this structure was conceived by Burgess in the late 1920s' it is far removed from the actual configuration of present urban areas. Modern transportation, new urban planning concepts, and the impact of new techniques of retailing institution site selection have changed drastically the shape of this particular zone. Although shopping centers are not located in the core of these areas due to zoning restrictions and/or higher land costs, their existence is closely related to the increased population density of suburbia.

Burgess's ideas and theoretical framework are not applicable today, but they can serve as a solid conceptual basis for other urban ecology analyses. His theory is particularly limited by the subsequent impact of the automobile, by the deep differences in the geographic morphology of urban land, and by the complex interactions of the multiple variables of urban systems. The wholesale system, for example, in many towns remains in the same concentric circle because it relies upon the use of railroad terminals and free access to highways. The continued blight of Zones 1 and 2 is, in some ways, a confirmation of Burgess's concepts in relation to the specific characteristics of these sections of the cities. Burgess's model cannot be applied to large metropolitan

areas with differentiated geographic forms without the risk of creating confusion and unprecision.

Hoyt: The Sector Theory.--Starting with Burgess's basic concepts, Homer Hoyt developed the theory that cities grow in sectors along the major transportation axes and that there is a certain degree of homogeneity in the land use throughout and around these routes. Hoyt's major concerns were the value of real estate property in the various sectors, their changing characteristics, and their impact on rent values.<sup>135</sup> He maintained that if one sector originally develops, for example, as a high rent-high price area, this pattern continues centrifugally from the center of the city, thus forming a more or less homogeneous sector. This proposition is highly contested today on the grounds that intracity highway systems and cities' zoning regulations constitute barriers and constraints.

The basic tenets of Hoyt's theory most relevant to this dissertation are the following:

1. The hierarchies of housing quality and the format of land use in modern cities are functions of the income and social rank of the inhabitants of various sectors.
2. The interactions of the urban eco-system generate attraction, and clusters of homogeneous activities

and buildings can be considered an obvious result of these phenomena.

3. Due to the radial-concentric shape of the sectors, the densities of land usage tend to decline from the center in the direction of the peripheral limits.<sup>136</sup>

4. This lowering density is the causal factor generating empty spaces within urban areas.

5. The rate of expansion toward outlying areas is greater for sectors near rapid transit lines and commuting routes since the travel time between the city and external zones is less in relation to other sectors.

Hoyt's scheme has some advantages since it considers the factors of income, social class, and life styles within urban areas. It also attempts to evaluate man-made factors such as roads, bridges, and large public buildings, all of which can modify the patterns suggested by the model. The homogeneity concept, which refers to the similar use of land within a sector associated with the attraction of building units within that sector, may reasonably explain the decentralization phenomenon in the United States. The major limitation in Hoyt's reasoning, as in Burgess's, is that the concentric or sector patterns cannot define the great majority of urban area structures. In many cities the sector patterns cannot be observed at all, or simply may disappear with the expansion of the urban area.

Harris and Ullman: The Multiple Nuclei Theory.--

Chauncy Harris and Edward Ullman contend that "in many cities the land-use is not built around a single center but around several discrete nuclei."<sup>137</sup> One of the most relevant tenets of their theory for the present analysis is that the "retail district is attached to the point of greatest intracity accessibility."<sup>138</sup> Accordingly, "retail districts benefit from grouping, which increases the concentration of potential customers and makes possible comparison shopping."<sup>139</sup> Finally, "heavy concentration of pedestrians, automobiles, and street cars in retailing districts is antagonistic both to the railroad facilities and the street loading."<sup>140</sup>

These propositions appear extremely relevant to the locational patterns of adjustment and change which were followed by retailing institutions, not only in the CBD, but later, when the process of decentralization was implemented in the great majority of urban areas in the United States. Since the city was transformed into a polynuclear structure, in each of these nuclei the same patterns were repeated. Consequently, decentralized retailing clusters were located in places of greatest accessibility. Furthermore, the institutions followed not only the largest concentration of potential customers, but also moved out of the heavy traffic congestion of neighboring related activities, such as transportation and wholesaling.

These concepts seem to be the most relevant for retailing systems' analysis because their constructs are highly compatible with the structure and flow patterns of modern cities. The empirical observation of large metropolitan areas indicates that their configuration and dynamics are much more in accordance with Harris's and Ullman's reasoning than with the other conceptual schemes examined.

### The Retailing System and the Quality of Urban Life

The preceding analysis of urban structures and their conceptual framework points out the intimate relationship between retailing activities and the structure of cities. It also can be said that the retailing process may affect the quality of urban life positively or negatively. The basic assumption made here is that the retailing process is a requisite of urban life; the very existence of cities and their growth can be traced to the fundamental need for trade.<sup>141</sup>

It is first necessary to state what is meant by the quality of urban life and how the retailing system may contribute to increasing or reducing that quality. The quality of urban life means freedom of choice, the use of leisure time in meaningful and creative activities, and convenience in acquiring, in the marketplace, the daily basket of needs and wants for personal or household use.

That quality increases when individuals or groups may perform, without strain or difficulty, the activities which are the very reasons for the formation and growth of urban conglomerates. In many urban sociology analyses, among all the reasons given to explain the emergence of cities, one of the most important is the need for trade and the exchange of goods and services. These activities are performed by the continuous movement of people and goods over urban space.

If these activities are performed with decreasing friction and at declining average time rates, it is possible to say that in some way the quality of life is increasing, since the marginal time derived from efficient movements may be diverted into creative, individually selected activities. If the reduction of accessibility and the increase in friction causes a decline in leisure time, it is clear that the quality of life is declining. The evaluation of such phenomena is not simple; it involves the establishment of complex criteria and trade-off measurements to define and evaluate the quality of urban life, and such tools have not been developed. However, some efforts in this direction have been made by scholars, notably Hans Blumenfeld<sup>142</sup> and Edgar Hoover.<sup>143</sup>

Blumenfeld views the city as "an economic machine" which attracts people, not only by the prospect of living, but also by the hope of making a living.<sup>144</sup> To perform

these functions, primary, secondary, and tertiary activities are necessary. These require a great deal of specialization in location and in the characteristics of the institutions which compose this complex system.<sup>145</sup>

An adequate gauge for measuring the value of time expended is offered by Hoover, who suggests that if a man earns \$5.00 per hour, the value of a half-hour trip to the market is \$2.50. Accordingly, if a conveniently located shopping center saves an average of 45 minutes per week in shopping time, which otherwise would be spent in commuting longer distances to downtown, the total time saved per year would be  $45\text{m} \times 52 \text{ weeks} = 2,340 \text{ minutes}$ , or 39 hours. The opportunity cost saved on this improved shopping schedule would equal  $39 \text{ hours} \times \$5.00$ , or \$195.00 per year for each individual. Assuming a community shopping center which serves a population of 10,000 households with one purchasing agent each, the total opportunity cost saved would equal  $\$195.00 \times 10,000$ , or \$1.95 million annually. Although these calculations are presented only for the sake of demonstration, it seems clear that they are based on a logical and internally consistent premise.

Another factor in assessing the proximity advantage of shopping centers is that they reduce the need for traveling long distances even when shopping goods are involved. As Hoover demonstrates, if ten minutes of additional



travel cost, for example, \$1.50, it would be worthwhile to travel ten minutes only if \$1.50 could be saved; that amounts to 15 percent of a \$10.00 item, but only 1.5 percent of a \$100.00 TV set.<sup>146</sup>

Shopping centers usually are not ten times more distant than the CBD, nor are their prices usually 15 percent more than those of other retailers. Thus, shopping centers at decentralized locations enhance the quality of urban life, not only in qualitative terms, but also in economic and quantitative terms.

#### Retailing Systems Within the Urban Space

Up to this point, fundamental theoretical considerations about the structure of cities have served as means to study the locational patterns and functions of the retailing system within the urban areas from a macro-perspective. No attempt has been made to define or evaluate trade areas and other parameters related to retailing institutions, so the discussion now will be oriented toward the analysis of these concepts. They will be viewed from a microperspective since they will be used later in the normative part of this dissertation.

First, we recall that retailing activities originally were located in the CBD, then expanded along the major radial axes, and finally reached a polynuclear

configuration, where outlying shopping centers emerged. Clearly, it is a three-stage process. The determination of trade areas for the two early stages is difficult for many reasons, but primarily because during the CBD's pre-dominant period there were no adequate statistics available, and because a definite concern regarding trade areas did not exist and most customers would shop in downtown areas. Furthermore, in the second-stage expansion, the volume of traffic generated by any one store was not easy to determine. Traffic generally was composed of passing commuters and people living within walking distance. Such erratic movement patterns would make precise assessment difficult.

Only in the last stage has there been increased attention in the body of knowledge to trade area analysis and determination. It is obvious that trade area evaluation is a legitimate concern when one remembers, that quite simply, retailing is or must be located near people; the corollary is that retailing must follow people in their movements within the urban area. Mapping population and determining its movement over space represents a basic step in the management and control of retailing systems and in the operation of retailing institutions. Consequently, consideration of some selected models and concepts related to trade area configuration and evaluation may be useful.

The analytical scheme will follow a logical pattern and will be oriented mostly toward models which may offer some insights relative to this dissertation's objectives; it is not possible to cover all contributions to and concepts in this particular area in a limited space. Since our objective is to establish normative criteria related to areas or microregions where it will be possible or advisable to locate shopping centers in the GSPMA, no attempt will be made at this point to discuss site selection theory and applied techniques.

The review of trade area analytical tools suggests that the studies and their models may be classified into two categories:<sup>147</sup> (1) trade area, or delineation and evaluation of trade areas' macrodimensions, such as size, potential, and so forth; and (2) site analysis, or evaluation of a specific location or a set of alternative locations within a trade area. In both categories there is a great deal of emphasis on factors such as size of the trade area, population, number and relative location of households, nature of population and goods movements within the trade area, and measurement of income. The constructs seem to be useful building blocks for determining the market potential in a prospective area. It is from these important measurements that location decisions are derived.

The location models discussed here will fall into category 1. They were chosen because of their consistency with the central evaluation technique adopted in this dissertation, that is, establishment of a model relating costs and revenues to potential. Before analyzing these models, it is necessary to define the concept of trade area that will be used.

### Trade Area Analysis

#### The Trade Area Concept: A Review

Several authors have offered definitions of the trade area concept; these range from very simple propositions to complex formulations based on mathematical and statistical constructs. Manuel Plotkin defines it as the "geographic area from which a store draws its customers."<sup>148</sup> Jac Goldstucker gives an operational concept, defining trade area as the geographic space "in which the costs of contact between buyers and sellers are minimal," so that the satisfaction of both consumers and businessmen must be optimal.<sup>149</sup> Lalonde extended this reasoning into a short but perceptive definition: "the perimeter for consumer space preference."<sup>150</sup> It is interesting that the latter takes into account the concepts of probability and movement over the space that are studied by William Reilly, Paul D. Converse, and David Huff.<sup>151</sup>

The breakdown of a trade area into its components has been done by Richard Nelson,<sup>152</sup> William Applebaum,<sup>153</sup> and Victor Gruen and Larry Smith.<sup>154</sup>

Nelson divides the trade area into regular octants and examines the total amount of sales in each, based on the assumption that, ceteris paribus, the spatial shopping behavior in each subarea is relatively homogeneous. This expensive procedure has been outdated by other methods.

Applebaum delineates primary, secondary, and tertiary trade areas, each of which may be depicted in a concentric circle of one-quarter mile. Potential sales may be mapped by spotting the origin of customers in one specific location, such as a single store or a shopping center.<sup>155</sup> The first subarea around the store or shopping center is the core area, and it is from here that the greatest portion of business is drawn. Depending upon the characteristics of its retailing institutions, the core may generate as much as 70 percent of total sales. The secondary area draws from 15-25 percent of the trade, and the tertiary or fringe area contributes the remainder.<sup>156</sup>

Gruen and Smith also believe the trade area, which they define as the geographic space "from which is obtained the major portion of the continuing patronage necessary for steady support of a shopping center," may be subdivided into primary, secondary, and tertiary areas.<sup>157</sup>

The shapes and contours of these subareas are subject to the specific topographic conditions of the surrounding environment which may facilitate or hinder the accessibility to any specific location. Gruen and Smith stressed the importance of driving time as an independent variable in the configuration of each of these areas. In other words, the most reliable method for defining the trade area's boundaries is to evaluate the travel time via the existing major routes.<sup>158</sup>

From an extensive review of the literature, the following table has been compiled to establish generic sub-trade area parameters.

TABLE 4.--Shopping Sub-Trade Areas. Generic Parameters.

| Subareas           | Percent of Sales (1) | Driving Time (2) |
|--------------------|----------------------|------------------|
| Primary or core    | 65% - 80%            | 5-15 minutes     |
| Secondary          | 15% - 25%            | 10-20 minutes    |
| Tertiary or Fringe | 5% - 10%             | 15-20 minutes    |

Sources: The Community Builders Handbook, p. 290; Gruen and Smith, Shopping Town, p. 33; John Shaver, "Los Angeles Rapid Transit System Report," Shopping Center Study, Los Angeles, 1961, p. 18; and Lima, Shopping Centers, p. 75.

<sup>1</sup>The figures shown are maximum and minimum ranges.

<sup>2</sup>The descriptive parameters tend to vary according to the size and category of the store or shopping center. For example, the tertiary trade area for a neighborhood center might be only 15 percent, whereas a supermarket in a regional shopping center may draw 20 percent of the traffic from as far away as 25 minutes travel time.

An advanced concept of a trade area is given by the gravitational school, which originated from the works of Reilly, Converse, and Huff.<sup>159</sup> The gravitationalists use a more operational approach to evaluate the characteristics and dynamic patterns of trade areas. Their work is based on quantitative techniques and probabilistic formulations of spatial shopping behavior. According to Huff, a trade area may be defined as:

A geographically delineated region containing potential customers for whom there exists a probability greater than zero of their purchasing a given class of products or services offered for sale by a particular firm or by a particular agglomeration of firms.<sup>160</sup>

Such a conceptual scheme has a major advantage of being able to focus on consumer behavior as the principal variable defining the contour of a trade area. The probabilistic nature of these models allows for the evaluation of variables such as time and distance, and also takes into consideration the competitive attraction among institutions located in one particular area.

From these various trade area definitions will be drawn the specific one to be used here, bearing in mind that our objective, at this time, is the study of macrolocation, or location within the major limits of a trade area, not microlocation, which is involved with site selection or evaluation. The locational studies which will be developed later will select and pinpoint principle areas in the GSPMA which may represent sufficient sales potential for profitable operation of shopping centers.

Trade Area: An Operational Concept

It is necessary to select an adequate definition of trade area which will be operational in relation to the characteristics of the region studied and compatible with the dissertation's constructs.<sup>161</sup> In other words, we must find a definition capable of describing a market area and its components to verify if a specific region may provide profit potential for shopping centers of different sizes. Obviously, the conceptual scheme used hereafter will be oriented toward determination of general trade areas within the environmental constraints of the GSPMA which may present an adequate market potential threshold for "cluster or groups of planned stores."<sup>162</sup> The objective is not to access the specific trade area of a particular shopping center (existing or proposed) on a certain site.

Therefore, we shall say that trade area is a geographic space which, due to its socioeconomic and ecological factors, is able to support the necessary threshold for the location of one shopping center of a certain size (cluster or grouping of planned retailing stores with off-street parking facilities). Such a definition is consistent with the cost-revenue analysis approach in which inputs (costs) and outputs (revenues) are evaluated in relation to market potential, in this case the constituent variables of the trade area.<sup>163</sup> Furthermore, the definition indicates that a simulation of the interaction among the geographic space descriptors and the operational characteristics of the proposed institution



will predict the spatial buying behavior patterns before the institution begins operation. Another advantage of our description is that it conceives of the trade area in terms of a "demand surface" which must contain potential customers for the center under scrutiny.<sup>164</sup>

A limitation of this approach is that it does not consider existing competition, but since this scheme will be used here for trade area analysis from a macroperspective, such a limitation will not invalidate its application. In addition, the limitation is not very important because centers located according to the framework's pattern would be central places. These are likely to display differential advantages because they would supply all conceivable goods to all parts of the trade area.<sup>165</sup>

A final remark regarding the advantage of using the threshold concept is that, in accordance with the central place principle, if consumer services activity is located in a certain decentralized region, it may attain economies of scale and agglomeration without having to serve the entire urban area. "The shopping centers located in such form, turn to be a focal point for access for work, shopping and recreational trips. The basic central pattern of access, centripetal movement of people, and centrifugal movement of goods and services is replicated in each part of the urban area."<sup>166</sup>

Having elaborated the operational concept which will be used later for modeling purposes, the discussion must move

on to the consideration of some of the measurement techniques for evaluating retail demand over space.

#### Trade Area: Evaluation Techniques

A large body of methods, techniques, and theoretical constructs have been generated by scholars and others for the purpose of solving problems related to trade area analysis. Since a complete synthesis of the total available information pertaining to this subject is not possible here, the discussion of this topic in the literature will be oriented toward that most relevant to this work. Specifically, attention will be focused on techniques concerning the definition and evaluation of general trade areas and their prospects for the location of shopping centers. Research related to trade area evaluation was initiated by William Reilly in 1931, expanded by Paul D. Converse in the forties, and found its quantitative evaluation with David Huff in the sixties.<sup>167</sup> An outstanding contribution has been made by Professor William Applebaum of Harvard University.

A differentiation must be made between techniques applicable to the evaluation of existing institutions' trade areas and those oriented to the measurement of future opportunity for proposed institutions. In accordance with the objective of this dissertation and its operational definition of trade area, both sets of techniques are needed to prescribe the characteristics and feasibility of shopping centers in the GMSPA.

The problem of evaluating trade areas will be solved through the measurement of their conventional descriptors: population, income, densities, number of households, and so forth. This approach is consistent with Applebaum's analogue method for estimating potential, according to which "similar stores and similar market factors make for approximately analogous situations."<sup>168</sup>

In other words, areas with similar descriptors will be receptive to retailing institutions which have similar operational characteristics. The basic task is to assess the trade area for projected centers based on analogous experiences in other areas. Adjustments then can be made in relation to size and other operational characteristics of the center, since these are the controllable and dependent constructs of the process.

#### Trade Area: Selected Measurement Parameters

The evaluation of a trade area requires a first set of measurement parameters which must be capable of quantifying the market opportunity within the geographic space under evaluation. A second set must be able to determine the projected amount of opportunity that will accrue to an institution, or a cluster of institutions, that eventually will locate in the area. This process is an interactive one. The characteristics of the store and the features of the trade area simultaneously will generate

the answer to the basic question: How much will an institution or a cluster of institutions be able to sell if located in an area with certain economics descriptors?

First Set of Parameters.--The first set of measurements are given below.

1. Size of the area must be given in  $\text{km}^2$  as a first approximation to construct the remaining parameters.

2. Population is the most general indicator of potential market. This information is a convenient basis for market estimates because of its availability.<sup>169</sup>

3. Income defines the population's ability to buy and may be a source for deriving other useful measurements such as household income, personal income, disposable income, discretionary income, and market opportunity.

4. Number of households indicates the number of dwelling units within an area; it is important in determining the degree of urbanization, population density, and buying behavior patterns.

5. Population density, as does measurement 4, indicates the degree of urbanization and is useful to determine whether or not a certain area may provide the necessary threshold for retailing location.

6. Mobility is assessed by the ability of the area's population to move over space. It is a function of the automobile ownership and public transportation facilities within the area. The basic methods for measuring this factor are traffic counting, analysis of the origins and destinations of shopping trips, and measurement of travel time and distance.

This initial set of measurements, as mentioned previously, defines the basic features of a trade area, but it does not take into consideration the impact of an institution with certain dimensions operating in the area. For this purpose we need a second set of measurements.

Second Set of Parameters.--A second set of measurements is needed to reflect the spatial shopping habits of people living in the area in relation to the attraction of a particular retailing institution. According to Applebaum, the operational features of one center in one area may, due to the analogue principle, be transferred to another.<sup>170</sup> Furthermore, what applies to individual stores may be extrapolated to shopping centers with some adaptations.<sup>171</sup>

1. Size of the average trade area involves determination of the area from which some existing institution draws its customers.<sup>172</sup>

2. Driving time around the existing or proposed location is given in 5- or 10-minute intervals and may be obtained by several methods: customer or household interview, license plate checking, or credit records analysis.

3. Driving distances, from the point of origin of customers to the store they are patronizing, include all modes of transportation (private, public, and walk-in) measurement.

4. Drawing power is a function of the percentage of actual customers by origin of trip, driving time, and driving distance. For example, 35 percent of the customers of shopping center K come from the surrounding subarea L, which measures 1.6 km.<sup>2</sup> (1 square mile), and spend an average of 10 minutes to reach the center.<sup>173</sup>

5. Customer mobility involves determination of the number of automobiles owned by customers patronizing the institution. This parameter may be calculated, also, in terms of percentages of customers owning one, two, or more cars. The mobility assessment also must take into consideration the mode of transportation used by the customer to reach the location. For example, 60 percent use cars, 30 percent use public transportation, and 10 percent walk in.

6. Demographics, as determined by the following criteria, may prove useful in estimating expenditures:

- a. Household income
- b. Household ownership
  - 1. Rented
  - 2. Owned and paid for
  - 3. Owned and not paid for
- c. Household head
  - 1. Sex
  - 2. Age
  - 3. Education
  - 4. Employment
- d. Number of people in household
- e. Food expenditures.

The methods for obtaining the information for the second set vary from the conventional customer interview in the store, to analysis of public statistics, to customer spotting in the surrounding region, to the most sophisticated techniques of indirect evaluation, as suggested by Alfred Eisenpreis.<sup>174</sup>

The techniques used later are based on the theory and methodology discussed up to this point. They will take into consideration the urban structure of the GSPMA, information related to demographics, and the primary data developed in some field studies at existing centers. These matters will be explained and discussed in detail in chapter 4. In the meantime, background material concerning the urban structure of the GSPMA should be provided.

#### A Summary of Theories and Concepts

The theories and concepts analysed in this chapter are extremely relevant to the evaluation of the shopping center industry and to the elaboration of this dissertation normative model.

Our analytical framework assumes that a set of solid theoretical constructs represents a good departure point from which the analyst can evaluate the systems performance, and to establish logical relationships for modelling purposes.

The previous analysis represents a synthesis of contributions from marketing, retailing and urban geography. Marketing and retailing concepts were analysed because they explain the evolution and the performance of retailing institutions within the urban space. Urban geography theories describe the cities, their structure, their evolution and their relations with retailing activities.

In summary our concern is with the retailing, its institutions, its location, and with the movement of goods and people over the urban space.

The theories examined in this chapter may be classified according with their field and their objectives. The following scheme seems to be satisfactory:

### Retailing Theories

These theories describe and explain the role of retailing institutions from a systemic perspective. Their contributions are focused on: (1) the retailing institutions as components of the marketing system; (2) the functions and the activities which must be performed by these institutions to create and to serve demand; (3) and, on the structural



changes in retailing systems, their operational characteristics and effects.

### Spatial Location Theories

These theories analysed retailing institutions from a logistic perspective. The contributions in this area examine: (1) the decentralization process; (2) the qualitative and quantitative dimensions of trade areas; (3) the relative location of trade areas within the urban space; and (4) the principles and policies which guide site selection.

### Urban Geography Theories

These theories describe, analyse and explain the urban systems. They provide a wide set of analytical tools to examine: (1) the complex interactions within the environment; (2) the external and internal characteristics of modern cities; (3) the structural pattern of urban areas; (4) the ecological adjustments of urban entities and their effects on quality of life; and (5) the measurement of trade areas and their flows within urban space boundaries.

### The Relevance for Analytical Purposes

All the concepts and theories examined above will be used in the remaining points of the dissertation. Basically these concepts were applied to: (1) describe and explain the evolution of retailing in the GSPMA; (2) to describe

and to evaluate the shopping center industry in the GSPMA; and (3) to develop the normative model for shopping center location.

### Conceptual Foundations

Alderson, Baranoff, Erickson and Lewis theories and contributions were used to study shopping centers as retailing systems. Since these constructs are basically conceptual foundations they are needed to understand the system, its components and interactions.

### Evolutionary Aspects

Gist, Hollander, Mertes, Applebaum and Cox's ideas were useful to explain the evolutionary dimensions of retailing institutions. These concepts were applied to explain the evolution of retailing from its simplest forms up to the modern shopping centers; the contributions in these areas were useful to expand Taylor's analysis of marketing and retailing in Brazil, as well as to solidify our analysis of GSPMA's retailing evolution.

### Trade Areas

Lalonde's, Markin's, Nelson's theories, associated with the gravitational models from Reilly, Converse, and Huff offered an adequate support to examine the relationships between shopping centers and their trade areas. These concepts were used also to perform a micro analysis of the shopping center industry in the GSPMA, and to develop this dissertation model.

### Retailing Decentralization

The contributions from urban analysts such as Forrester, Harris and Ullman, Burges, Hoyt and Hurd, associated with the studies from Blumenfeld and Hoover were used to support the conclusions of this dissertation, which will indicate the need for retailing decentralization and the expansion of shopping centers in the GSPMA.

### Basis for Model Construction

The analytical framework developed in this chapter is also an important set of inputs for modeling process.

Our model will be elaborated according with the following conceptual guidelines: (1) the assessment of market opportunity in the GSPMA will use Professor Erickson's methods and will draw upon demography concepts suggested by Plotkin, Eisenpreis and Applebaum; (2) the evaluation of land site, takes into consideration the relations among the site location characteristics, the trade area, and the physical and operational dimensions of the shopping centers. This analysis will be based on Mertes' studies, on Markin's concepts, on Nelson's principles and on the gravitationalists contributions; (3) the cost parameters and relationships, which are inputs to the model, will be studied according with the concepts of trade area analysis suggested by Applebaum and Huff. This reasoning assumes a high degree of compatibility among the trade area characteristics and

the shopping center physical dimensions; (4) the criteria for investment, which we will develop in the model will be derived from the theoretical concepts of retailing theory, and from finance analytical techniques. These criteria will integrate the fundamental contributions from Alderson, Baranoff and Paul Smith who studied retailing and shopping centers from a sistemic perspective; and (5) the introduction of probabilistic dimensions in the model will use statistical tools, in association with concepts and principles derived from the contributions of Lalonde and Huff who studied the multiple effects of competition on the trade areas.

### Conclusions

The theories examined in this chapter will be used to evaluate the Brazilian environment, to measure the present performance of shopping centers in the GSPMA and to construct the normative model.

These theories are integrated into a meaningful and multidimensional analytical framework, which provides synthesis and in the same time permits prescriptive statements.

FOOTNOTES: CHAPTER II

<sup>1</sup>Reavis Cox, "Consumer Convenience and the Retail Structure of Cities," Journal of Marketing, 24 (April 1959), 355-362.

<sup>2</sup>Ibid.

<sup>3</sup>Frank Meissner, "Planned Shopping Centers," in Ronald E. Gist, ed., Management Perspectives in Retailing (New York: Wiley, 1967), pp. 80-85.

<sup>4</sup>Markin, Retailing Management, p. 17.

<sup>5</sup>Wroe Alderson, Marketing Behavior and Executive Action (Homewood, Ill.: Richard D. Irwin, 1957), p. 326.

<sup>6</sup>Ibid., p. 326.

<sup>7</sup>See, for example, Stanley C. Hollander, "The Wheel of Retailing," Journal of Marketing, 25, no. 1 (July, 1960), 37-42; Eli P. Cox and Leo G. Erickson, Retail Decentralization (East Lansing: Bureau of Business and Economic Research, Michigan State University, 1967); and Delbert J. Duncan, "Responses of Selected Retail Institutions to Their Changing Environment," in Peter Bennet, ed., Marketing and Economic Development (Chicago: American Marketing Association, 1965), pp. 583-602.

<sup>8</sup>Hans B. Thorelli, "Ecology in Marketing," Southern Journal of Business, 2 (October 1967), 19-25. Professor Thorelli defines the relevant environment as "the sum of all factors and phenomena which may affect an organization, or which may be affected by the organization."

<sup>9</sup>Ibid., p. 20.

<sup>10</sup>Ibid., p. 21.

<sup>11</sup>Richard J. Lewis and Leo G. Erickson, "Marketing Functions and Marketing Systems: A Synthesis," Journal of Marketing, (July 1969), 10-19.

<sup>12</sup>The complementary nature of obtaining and servicing demand functions, by means of which the "ability to service demand can be used as a demand obtaining force" as mentioned by Lewis and Erickson, also can be observed in the operations of the retailing system. Better physical facilities and locational patterns (servicing demand) are likely to increase drawing power and share of market (obtaining demand). This interpretation of Lewis and Erickson's concepts is compatible with Baranoff's analysis of the operational characteristics of retailing.

<sup>13</sup>Lewis and Erickson, "Marketing Functions," p. 12.

<sup>14</sup>Thorelli, "Ecology," p. 24. Thorelli calls these characteristics "task environment," that is, "the market in which the offerings of the organization is exchanged for customer dollar on which the survival of the organization directly depends."

<sup>15</sup>For an extended discussion on the nature the relationships between the activities, see Lewis and Erickson, "Marketing Functions," p. 17.

<sup>16</sup>For a good analysis of this special aspect of convenience, see Ronald E. Gist, Retailing--Concepts and Decisions (New York: Wiley, 1968), pp. 19-25.

<sup>17</sup>Seymour Baranoff, "Retailing as an Operating System," in Reavis Cox, Wroe Alderson, and Stanley Shapiro, eds., Theory in Marketing, 2d series (Homewood, Ill.: Richard D. Irwin, 1964), p. 156.

<sup>18</sup>Ibid., p. 162.

<sup>19</sup>Wroe Alderson, Marketing Behavior, p. 77. Alderson defined circularity as "a sequence of steps arranged one after another, but in such a way that the process returns to the point from which it started."

<sup>20</sup>David A. Revzan, Perspectives for Research in Marketing: Seven Essays (Berkeley: Institute of Business and Economic Research, University of California, 1965), p. 6.

<sup>21</sup>Malcolm P. McNair, "Improving the Dynamics of Retailing in an Expanding Economy," in Stanley C. Hollander, ed., Explorations in Retailing (East Lansing: Bureau of Business and Economic Research, Michigan State University, 1959), pp. 3-8.

<sup>22</sup>The theories about and the concern with retailing systems dynamics have been a constant in marketing literature; for other perspectives see: Wroe Alderson, Dynamic Marketing Behavior (Homewood, Ill.: Richard D. Irwin, 1965), in particular, chap. 9; for a historic perspective: see Robert Bartels, The Development of Marketing Thought (Homewood, Ill.: Richard D. Irwin, 1962), especially chap. 8, where Bartels examines the changes in the environment of retailing and emphasizes the point that the principal changes in this area are "related to the manner in which people choose to live." Bartels also notes that following World War II "convenience came to be defined in terms of easiness of access to retail market place, parking facilities and one stop shopping for both related and unrelated items, and freedom of choice" (pp. 140-141).

<sup>23</sup>For a similar type of analysis see the following: Alton F. Doody, "Historical Pattern of Marketing Innovations," in William Decker, ed., Emerging Concepts in Marketing, Proceedings of the Winter Conference of AMA (Chicago: December, 1962), pp. 245-56; Thomas A. Staudt and Donald A. Taylor, "A Managerial Introduction to Marketing," 2d ed. (Englewood Cliffs, N.J.: Prentice Hall, 1970), pp. 310-16; and Edward Brand, Modern Supermarket Operation (New York: Fairchild Publications, 1963), pp. 242-44. Brand made an extensive analysis of product assortment and its relation to stores' operational patterns.

<sup>24</sup>Samuel Feinberg, What Makes Shopping Centers Tick (New York: Fairchild Publications, 1960). Feinberg denominates the "new" institutions as suburban clusters, which, according to him, is a generic term for all types of shopping centers located out of the central business district's limits.

<sup>25</sup>Colin S. Jones, Regional Shopping Centers: their location planning and design (London: Business Books, 1969), pp. 141-52.

<sup>26</sup>Gist, Retailing, p. 83. Gist says that in the absence of precise tools of measurement or fully representative data, the scientists may develop a "working hypothesis" regarding the explanation of a phenomenon. These working hypotheses must be conceived as first approximations to an acceptable explanation. Furthermore, reasoning according to these guidelines can provide logical analogies and empirical verification of retailing system dynamics.

<sup>27</sup>Ronald Gist, Marketing and Society: A Conceptual Introduction (New York: Holt, Rinehart and Winston, 1971), see especially chaps. 15 and 16. The quotation is from page 362.

<sup>28</sup>In the GSPMA the same phenomena may be observed in relation to the so-called armazens (generally family owned and operated food stores) which are being replaced by the supermarkets. For interesting analysis see Knoke, "Os Super-mercados no Brasil," p. 91.

<sup>29</sup>Some schools of thought in marketing believe that institutions must change before the environment and must become an active force in changing the economic level within certain areas. For interesting discussions on this subject see: Richard Holton, "Marketing Structure and Economic Development," Quarterly Journal of Economics, 67 (August 1953), 361; Peter F. Drucker, "Marketing and Economic Development," Journal of Marketing, 22 (January 1958), 252; and Walt W. Rostow, "The Concepts of a National Market and its Economies--Growth Implications," in Proceedings, Fall Conference of the American Marketing Association, 1965, p. 18. Rostow's ideas were seminal for extensive research in the role of marketing as a change force.

<sup>30</sup>Gist, Marketing and Society, p. 363. Gist labels this the theory of adjustment.

<sup>31</sup>Malcolm McNair, "Significant Trends in the Postwar Period," in A. B. Smith, ed., Competitive Distribution in a Free High-Level Economy and Its Implications for the University (Pittsburgh: University of Pittsburgh Press, 1958), pp. 1-25.

<sup>32</sup>Hollander, "The Wheel of Retailing," p. 37.

<sup>33</sup>Ibid., p. 39.

<sup>34</sup>In less developed economies, as will be discussed later, decentralization and the shopping center movement were delayed because of the time lag in the development of the automobile industry. In the specific case of GSPMA the process of urbanization came much earlier than the automobile industry. For another example of conformity see Collin Jones, "Regional Shopping Centers," pp. 5-6, where he examines the evolution of GEM discount house in England.

<sup>35</sup>Victor Gruen and Larry Smith, Shopping Towns--U.S.A.--The Planning of Shopping Centers (New York: Reinhold Corp., 1960), p. 140.





<sup>36</sup>For a complete discussion of the dialectic process theory see Gist, Retailing, pp. 106-109, and Marketing and Society, pp. 370-371.

<sup>37</sup>Bernard J. Lalonde, "The Logistics of Retail Location," in William D. Stevens, ed., The Social Responsibilities of Marketing (Chicago: American Marketing Association, 1961), pp. 567-575.

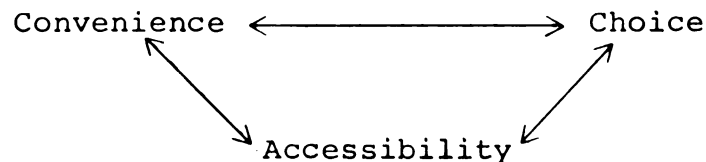
<sup>38</sup>Ibid., p. 567.

<sup>39</sup>Ibid.

<sup>40</sup>William Applebaum, "Guidelines for a Store Location Strategy Study," Journal of Marketing, 30, no. 4 (October 1966) 42-45.

<sup>41</sup>John E. Mertes, "Structure Theory for Site Analysis," Journal of Retailing 40, no. 2 (Summer 1964) 19-30. In this article Mertes classifies "spatial position" as a form of differential advantage. He also emphasizes that locational advantage is a competitive position which is difficult to assail or to neutralize.

<sup>42</sup>Ibid., p. 22. The reasoning discussed above is illustrated by Mertes in his article by this simple diagram:



<sup>43</sup>Ibid., p. 23. Mertes uses the term comparison goods instead of the conventional and widely used shopping goods.

<sup>44</sup>Ibid., p. 26.

<sup>45</sup>Adapted from Markin, Retailing Management, p. 207, for purposes of this discussion.

<sup>46</sup>Richard L. Nelson, The Selection of Retailing Location (New York: F. W. Dodge Corp., 1958), pp. 51-56, 65-68.

<sup>47</sup>Ibid., p. 54.

<sup>48</sup>Ibid., pp. 27, 28, 29, and 31.

<sup>49</sup>Homer Hoyt, "The Structure and Growth of Residential Neighborhoods in American Cities," (Washington, D.C.: US FHA, 1939); and Harris and Ullman, "The Nature of Cities," pp. 14-15.

<sup>50</sup>Nelson, Retailing Location, p. 66. The rule of compatibility is expressed by the equation:

$$V = I(V_L + V_S) \times \frac{1}{\frac{V_L}{V_S}} \times \left( \frac{P}{V_L} \times \frac{P_S}{V_S} \right),$$

where:

L = large stores;

s = small stores;

V<sub>L</sub> = volume of larger stores;

V<sub>S</sub> = volume of smaller stores;

P<sub>L</sub> = purposeful purchasing at L;

P<sub>S</sub> = purposeful purchasing at s;

I = degree of interchange; and

V = increase in the total volume of two stores

OBS: Purposeful purchasing means purchases made in accordance with the purpose which generated the shopping trip.

If:

V = \$5,000,

V<sub>S</sub> = \$ 600,

P<sub>L</sub> = 80% ,

P<sub>S</sub> = 30% , and

I = 25% ,

then

$$0.25 (5,000+600) \frac{1}{\frac{5000}{600}} \times \left[ \frac{8(5,000)}{5,000} + \frac{.3(600)}{600} \right] =$$

$$0.25 (5,600) \cdot \frac{600}{5000} \cdot \left[ \frac{4,000}{5,000} + \frac{180}{600} \right] =$$

$$1400 \cdot 0.12 (0.80 + 0.30) =$$

$$168 \cdot (1.10) = \$184.80.$$

OBS: This result is the additional business which will be gained by the two stores together.

<sup>51</sup>James Simmons, "The Changing Pattern of Retail Location, Chicago" (Chicago: University of Chicago Press, 1964), Research Paper No. 92.

<sup>52</sup>Paul E. Smith, "Prescription for a Successful Shopping Center," MSU Business Topics 14, no. 4 (Autumn 1966):17-26.

<sup>53</sup>Ibid., p. 19.

<sup>54</sup>Wroe Alderson, "The Analytical Framework of Marketing," in Ben M. Enis and Keith K. Cox, eds, Marketing Classics (Boston: Allyn and Bacon, 1969), p. 12.

<sup>55</sup>OBS: In this dissertation the CBD, a cluster of stores, a single standing department store, and a new supermarket are not considered true shopping centers because of their multiple ownership and lack of control in store mix.

<sup>56</sup>For another similar classification of shopping center variables, see Smith, "Prescription," p. 24. Smith perceives the system as composed of two major sets, the external and internal environments, but does not define the degree of controllability of these variables.

<sup>57</sup>A. C. R. Dressmann, "Patterns of Evolution in Retailing," Journal of Retailing, 44, no. 1 (Spring 1968), 64-81, 79. The pattern of convergence when applied to retailing explains how different types of institutions within a common environment perform similar activities despite their diverse size and product mix, for example, common use of shopping center parking areas.



<sup>58</sup>Donald F. and Ruth C. Mulvihill, Geography of Marketing and Urban Growth (New York: Van Nostrand Reinhold, 1970), p. 134.

<sup>59</sup>Ibid. The Mulvihills state that dispersed goods are those being offered at dispersed locations in a trade area; indifferent goods are those being offered either centrally or in dispersed locations.

<sup>60</sup>For a detailed discussion of the factors which influence urban ecology see Gerald Breese, Urbanization in Newly Developing Countries (Englewood Cliffs: Prentice Hall, 1966), p. 109. Among those factors, the most relevant to the present analysis are: concentration of people at or near central locations; centralization, which explains the development of the CBD; decentralization, which is a function of mobility and competition; segregation, which is defined by the clustering and sorting out of land use, population groups, and activities in a harmonic form; and specialization, which is a result of segregation and the best explanation of why homogeneous stores concentrate in specific areas.

<sup>61</sup>Perry Bliss, "Schumpeter: The Big Disturbance in Retailing," Social Forces, October 1960, p. 76.

<sup>62</sup>Ibid., pp. 72-76.

<sup>63</sup>Ibid.

<sup>64</sup>Christensen T. Jonassen, Downtown versus Suburban Shopping (Columbus, Ohio: Bureau of Business Research, Ohio State University, 1955).

<sup>65</sup>Louis P. Bucklin, "Retail Strategy and the Classification of Consumer Goods," Journal of Marketing 27, no. 1 (January 1963):50-55.

<sup>66</sup>Persis R. Emmet, "Development and Location of Shopping Centers in the San Francisco Bay Area, California" (unpublished Ph.D. dissertation, Stanford University, 1961).

<sup>67</sup>Charles E. Stonier, "Off Street Parking to Attract Downtown Shoppers," Journal of Retailing, 36 (Fall 1960), 145-149.

<sup>68</sup>James F. Engel, David T. Kollat, and Roger D. Blackwell, Consumer Behavior (New York: Holt, Rinehart and Winston, 1968), pp. 452-456. These authors stress the condition that "shopping centers usually rank higher than downtown stores in terms of friendliness" (p. 453). Such a characteristic is also another factor leading to the implementation of the marketing concept.



<sup>69</sup>Ibid.

<sup>70</sup>Frederick D. Sturdivant, Managerial Analysis in Marketing (Glenview, Ill.: Scott, Foresman, 1970), p. 2.

<sup>71</sup>In 1957 shopping centers were formally recognized as an industry by the formation of the International Council of Shopping Centers in New York. This trade association's main objective is to promote the interest of owners and managers of planned centers.

<sup>72</sup>Gruen and Smith, Shopping Towns, p. 65.

<sup>73</sup>The Community Builders Handbook (Washington, D.C.: Urban Land Institute, 1968), p. 272.

<sup>74</sup>National Cash Register do Brasil, "Shopping Centers," a seminar offered at the School of Business Administration of S. Paulo, S. Paulo, Brazil, September 1971.

<sup>75</sup>The last year available from this source is 1969. The publication gives figures related to rents paid by tenants and the relative percentage of floor area occupied by each category of tenant for a select sample of U. S. shopping centers.

<sup>76</sup>S. O. Kaylin, ed., Executive Edition, Chain Store Age (April 1966), p. E8. The data furnished by this source originated from information provided by the ULI.

<sup>77</sup>For a study developed according to this suggested scheme see Brian J. Berry, Commercial Structure and Commercial Blight, Research Paper No. 85 (Chicago: Department of Geography, University of Chicago, 1965); see also, Simmons, Changing Patterns, p. 6.

<sup>78</sup>Berry, Geography, p. 120.

<sup>79</sup>Simmons, Changing Patterns, pp. 6-8.

<sup>80</sup>See Eugene Kelley, Locating Controlled Regional Shopping Centers (Sagatuck, Connecticut: Eno Foundation for Highway Traffic Control, 1956); Paul E. Smith, Shopping Centers Planning and Management (Chicago: National Retail Dry Goods Association, 1956); and Geoffrey Baker and Bruno Funaro, Shopping Center: Design and Operation (New York: Reinhold Publishing, 1951), in which is found a complete analysis of the Country Club Plaza. Claimed to be the first U.S. shopping center, it was built in Kansas City, Missouri, in 1925.



<sup>81</sup>See John E. Mertes, "The Shopping Center--A New Trend in Retailing," Journal of Marketing, 13 (January 1949), 372-378; and Gordon H. Stedman, "The Rise of Shopping Centers," Journal of Retailing, 31 (Spring 1955), 11-26.

<sup>82</sup>Kelley, Locating Controlled Regional Shopping Centers, p. 8.

<sup>83</sup>The Community Builders Handbook, p. 271. The same source indicates that Jesse Nichols, developer of the Country Club Plaza, was inspired by Mr. Bouton. Hugh Potter, owner and developer of River Oaks Shopping Center, Dallas, Texas, followed the same pattern in 1931.

<sup>84</sup>Baker and Funaro, Shopping Center, p. 81.

<sup>85</sup>Stedman, "The Rise of Shopping Centers," p. 16.

<sup>86</sup>Mulvihill and Mulvihill, Geography of Marketing, p. 160.

<sup>87</sup>"Europe's New Shopping Centers," Business Abroad (October 1968), 22-28.

<sup>88</sup>Paul E. Smith and Eugene J. Kelley, "Competing Retail Systems: The Shopping Center and the Central Business District," Journal of Retailing (Spring 1960), 11-18.

<sup>89</sup>Ibid., p. 11.

<sup>90</sup>Ibid., p. 16.

<sup>91</sup>See Paul H. Nystrom, "Downtown Shopping Revival," Journal of Retailing, 34, no. 3 (Fall 1958), 129-132; and George Fisk, "The Replanning of Center City Shopping Districts," Journal of Retailing, 35, no. 2 (Summer 1959), 80-84. Nystrom argued that downtown retailing was to be considered as an ailing patient, and that the trade in these areas does not die but fades away. Fisk suggested that "mass communication and private transportation technology had a disruptive effect on downtown trade, that some effort towards reorganization following European models should be attempted." Neither author mentioned the impact of increasing car ownership upon this phenomenon.

<sup>92</sup>Ralph Thomlinson, Urban Structure--The Social and Spatial Character of Cities (New York: Random House, 1970), chap. 8, especially pp. 150-151.

<sup>93</sup>William Applebaum and Saul B. Cohen, "The Dynamics of Store Trade Areas and Market Equilibrium," Annals of the Association of American Geographers, 51 (March 1961), 73-101.

<sup>94</sup>See Stedman, "The Rise of Shopping Centers," pp. 11-26, and Gordon H. Stedman, "Impact of Shopping Centers Locally and Downtown," Journal of Retailing, 32 (Spring 1956), 25-39. The latter article deals with the relations between shopping centers and the local government, and it is not relevant to the points discussed in the quotation.

<sup>95</sup>T. Dart Hellsworth, et al., "Changing Trends in Regional Shopping Centers," Journal of Retailing, 34, no. 4 (Winter 1958), 177-184.

<sup>96</sup>Charles H. Hinderman, "Impact of Shopping Centers in Downtown Cincinnati," Journal of Retailing, 34, no. 4 (1958), 185-188.

<sup>97</sup>For a complete analysis see "Parking Requirements for Shopping Centers," Technical Bulletin No. 53 (Washington, D.C.: Urban Land Institute, 1964).

<sup>98</sup>Mertes, "The Shopping Center," p. 376.

<sup>99</sup>Baker and Funaro, Shopping Center, p. 10.

<sup>100</sup>Nelson, Retailing Location, p. 175.

<sup>101</sup>Ibid., p. 176.

<sup>102</sup>Gruen and Smith, Shopping Towns, p. 52.

<sup>103</sup>Kelley, "Location of Controlled Regional Shopping Centers," pp. 10-11, 66-67.

<sup>104</sup>Emmet, "Development and Location," pp. 1-24. This author devised another form of classification, the integrated center. This has all types of stores operating interdependently to perform various merchandising practices and physical distribution functions (p. 22).

<sup>105</sup>The Community Builders Handbook, p. 267. This classification has become, in a certain way, an official guide to appraising shopping centers in the United States. Many other authors, such as Gist, Markin, Rachman, and McCarthy, have used the same criteria in their textbooks.

<sup>106</sup>Joseph De Chiara and Lee Koppelman, Plan Design Criteria (New York: Van Nostrand Reinhold, 1969), pp. 231-234.

<sup>107</sup>William Lazer, et al., CELS-80: Consumers Environment & Life Styles of the 1980s (Benton Harbor, Mich.: Whirlpool Corporation, 1971), pp. 30-32.

<sup>108</sup>Eugene R. Beem, "Retailing in the 1980's," Marketing Insights, 18 (November 1968), 20-24.

<sup>109</sup>A major constraint on these trends is that at present the cost of extensive application of closed circuit TV for in-home shopping is still prohibitive for mass retailing uses. See Altoon F. Doody and William R. Davidson, "Next Revolution in Retailing," Harvard Business Review (May-June 1967), 4-16. The predictions made by these authors in 1967 were not yet materialized.

<sup>110</sup>Ernest B. Weiss, "What Will Retailing Be Like in 1975?" Advertising Age, 37 (March 7, 1966), 119-122.

<sup>111</sup>Ibid., p. 119.

<sup>112</sup>See Walter Gross, "Retailing in the Seventies: A Projection of Current Trends," Baylor Business Studies (February-March-April 1969), pp. 19-31. Gross maintains that shopping centers will continue to be the perfect substitute for downtown business districts for a long time.

<sup>113</sup>Jones, "Regional Shopping Centers," p. 153. The words in brackets were added for clarity.

<sup>114</sup>See Jay Forrester, Urban Dynamics (Cambridge, Mass.: The M.I.T. Press, 1969). This book represents an initial but sophisticated attempt to describe and explain the characteristics and the dynamics of urban systems.

<sup>115</sup>Forrester, Urban Dynamics, p. 107. For a complete and illustrative discussion of Forrester's conceptual framework, see especially pp. 107-114, "Notes on Complex Systems," and chap. 2, "Structure of an Urban Area," pp. 12-37.

<sup>116</sup>Ibid., pp. 15, 17.

<sup>117</sup>Ibid., p. 13.

<sup>118</sup>For a complete set of definitions of a city see Ralph Thomlinson, Urban Structure (New York: Random House, 1969), pp. 37-42.

<sup>119</sup>The fundamental contribution to development of the urban ecology concept is credited to Ernest W. Burgess and Roderick D. MacKenzie, eds., The City (Chicago: University of Chicago Press, 1925).

<sup>120</sup>Thomlinson, Urban Structure, p. 110.

<sup>121</sup>Jean Gottman, "Megalopolis or the Urbanization of the Northeastern Seaboard," Economic Geography, 33 (July 1957), 189-200.

<sup>122</sup>Berry, op. cit., p. 17. The author defines metropolis as an urban system with drawing power of about 40 miles, 100,000 people, and over 1,100 retail outlets including an array of all types of stores.

<sup>123</sup>Charles S. Ascher, "What Are the Cities For?" Annals of the American Academy of Political and Social Science, 262 (1945), 23.

<sup>124</sup>Chauncy D. Harris and Edward L. Ullman, "The Nature of the Cities," Annals of the American Academy of Political and Social Science, 262 (November 1945), 7-17.

<sup>125</sup>Ibid., p. 16.

<sup>126</sup>Eric E. Lamford, "The Evolving System of Cities in the USA," in Issues in Urban Economics, Harvey S. Perloff and Lowdon Wingo, Jr., eds. (Baltimore: Johns Hopkins Press, 1968), p. 87.

<sup>127</sup>Leo V. Aspinwall, "Rule of Uniformity" (paper presented at Marketing Theory Seminar, Dartmouth College, 1953). (Mimeographed, Boulder, 1955.)

<sup>128</sup>Richard M. Hurd, Principles of City Land Use (New York: The Record and Guide, 1903).

<sup>129</sup>See Thomlinson, Urban Structure, p. 145. For an illustrative discussion of these contributions see also Daniel P. Salins, "Household Location Patterns in Selected American Metropolitan Areas" (unpublished Ph.D. dissertation, Syracuse University, 1970), especially pp. 8-42.

<sup>130</sup>Pedro P. Geiger, Evolucao da Rede Urbana Brasileira (Rio de Janeiro: Centro Brasileiro de Pesquisas Educacionais, 1963), pp. 177-178. The author points out that similar phenomena can be observed in Rio de Janeiro and the GSPMA.

<sup>131</sup>Ernest Burgess, "Urban Areas," in Chicago, An Experiment in Social Science Research, T. V. Smith and L. D. White, eds. (Chicago: University of Chicago Press, 1929), pp. 113-138.

<sup>132</sup>Ibid., p. 118.

<sup>133</sup>For an excellent discussion of these problems, see Edgar Hoover and Raymond Vernon, Anatomy of a Metropolis (Cambridge, Mass.: Harvard University Press, 1959).

<sup>134</sup>Thomlinson, Urban Structure, p. 145.

<sup>135</sup>Homer Hoyt, The Structure and Growth of Residential Neighborhoods in American Cities (Washington, D. C.: Federal Housing Administration, 1939), pp. 112-122.

<sup>136</sup>See Collin Clark, "Urban Population Densities," Journal of the Royal Statistical Society, Series A, 114 (1951), 490-496. Clark developed his work based on Hoyt's concept, the well-known density gradient formula, which is expressed as follows:

$$D_x = D_m (e^{-bx})$$

where

$D_x$  = density at radial distance  $x$ ;

$D_m$  = peak density at the city theoretical center;

$-b$  = density decrease rate per unit distance (slope);

$x$  = radial distance; and

$e = 2.718...$

<sup>137</sup>Harris and Ullman, "The Nature of Cities," p. 14.

<sup>138</sup>Ibid.

<sup>139</sup>Ibid.

<sup>140</sup>Ibid.

<sup>141</sup>For an interesting and extensive analysis of the cause of cities' emergence, see Max Weber, The City (New York: The Free Press, 1958); and Lewis Mumford, The City in History (New York: Harcourt, 1961).

<sup>142</sup>Hans Blumenfeld, "Criteria for Judging the Quality of the Urban Environment," in The Quality of Urban Life, Henry J. Schmandt and Warner Bloomberg, eds. vol. 3, Urban Affairs Annual Review (Beverly Hills, Calif.: Sage 1969), pp. 136-164.

<sup>143</sup>Edgar M. Hoover, "The Evolving Form of the Metropolis," in Issues in Urban Economics, Harvey S. Perloff and Lowdon Wingo, Jr., eds. (Baltimore: Johns Hopkins Press, 1968), pp. 237-283.

<sup>144</sup>Blumenfeld, "Criteria," p. 141.

<sup>145</sup>Ibid., p. 144.

<sup>146</sup>Hoover, "Evolving Form," pp. 241-242.

<sup>147</sup>For an extended and comprehensive synthesis of trade area theory, see Jac Goldstucker, "Trading Areas," in Science in Marketing, George Schwartz, ed. (New York: John Wiley and Sons, Inc., 1965), pp. 281-319.

<sup>148</sup>Manuel D. Plotkin, "The Use of Credit Accounts and Computers in Determining Store Trading Areas," in New Directions in Marketing, Frederick E. Webster, Jr., ed. (Chicago: American Marketing Association, 1965), p. 271.

<sup>149</sup>Goldstucker, "Trading Areas," p. 282.

<sup>150</sup>Bernard J. Lalonde, Differentials in Super Market Drawing Power, Marketing and Transportation Paper, No. 11 (East Lansing, Michigan: Bureau of Business and Economic Research, Michigan State University, 1962), p. 59.

<sup>151</sup>See David L. Huff, "Defining and Estimating a Trading Area," Journal of Marketing, 28 (July 1964), 27-28.

<sup>152</sup>Nelson, Retailing Location, pp. 191-193.

<sup>153</sup>William Applebaum, "Methods for Determining Store Trade Areas, Market Penetration and Potential Sales," Journal of Marketing Research, 3 (May 1966), 127-141.

<sup>154</sup>Gruen and Smith, Shopping Town, pp. 30-35.

<sup>155</sup>Applebaum, "Methods," p. 127.

<sup>156</sup>Extensive studies about the exact figures on each subarea have been made. See, for example, Bernard J. Lalonde, "The Logistic of Retail Location," in The Social Responsibilities of Marketing, William D. Stevens, ed. (Chicago: American Marketing Association, 1964), pp. 567-575. This seminal study emphasizes the drawing power of supermarkets located in several situations ranging from urban strips to regional shopping centers.

<sup>157</sup>Gruen and Smith, Shopping Town, p. 31.

<sup>158</sup>Ibid., p. 33.

<sup>159</sup>For a comprehensive analysis of the development of these theories, see George Schwartz, Development of Marketing Theory (Chicago: South Western, 1963); and an article by Schwartz, "Laws of Retail Gravitation: An Appraisal," University of Washington Business Review, 22 (October 1966), 60-71.

<sup>160</sup>Huff, "Defining and Estimating," p. 38.

<sup>161</sup>Philip Kotler, Marketing Decision Making: A Model Building Approach (New York: Holt, Rinehart and Winston, 1971), p. 303.

<sup>162</sup>Threshold is the intensity below which a stimulus produces no response. In a slightly different perspective, "threshold may be conceived as the minimum point at which sales are large enough for a retailing institution to earn normal profits." See an excellent analysis in Richard A. McGarrity, S.J., "An Application of Space Transformation in Evaluating the Urban Location Pattern of a Multi-Unit Retail Firm" (unpublished Ph.D. dissertation, Northwestern University, 1969), p. 61.

<sup>163</sup>For similar conceptual schemes, see National Association of Marketing Teachers, "Definition of Marketing Terms," National Marketing Review (Fall 1935), p. 166; G. E. Larson and M. N. Poteat, "Selling in the United States Market," Domestic Commerce Series, No. 29 (New Series) (Washington, D. C.: U. S. Department of Commerce, Government Printing Office, 1951), p. 13; Gist, Retailing, p. 149; and Committee on Definitions, Marketing Definitions: A Glossary of Marketing Terms (Chicago: American Marketing Association, 1960).

<sup>164</sup>The concept of demand surface, that is, market potential over space, was developed by Huff in his classic article, "Defining and Estimating," pp. 39-42.

<sup>165</sup>Mulvihill and Mulvihill, Geography of Marketing, p. 137.

<sup>166</sup>Hoover, "Evolving Form," p. 262.

<sup>167</sup>See William J. Reilly, The Law of Retailing Gravitation (New York: William J. Reilly, 1931); Paul D. Converse, "New Laws of Retail Gravitation," Journal of Marketing, 14, no. 3 (October 1949), 379-384; and David L. Huff, "A Probabilistic Analysis of Consumer Spatial Behavior," in Emerging Concepts in Marketing, William S. Decker, ed. (Chicago: American Marketing Association, 1963), pp. 444-450.

<sup>168</sup>Among the extensive contributions of Applebaum, the following are relevant: Samuel S. Cohen and William Applebaum, "Evaluating Store Sites and Determining Store Rents," Economic Geography, 51 (January 1960), 1-35; William Applebaum, "Store Trading Areas in a Changing Market," Journal of Retailing, 37 (Fall 1961), 14-25; William Applebaum, "Methods for Determining Store Trade Areas, Market Penetration and Sales Potential," Journal of Marketing Research, 3 (May 1966), 127-141.

<sup>169</sup>Walter B. Wentz and Gerald I. Eyrich, Marketing Theory and Application (New York: Harcourt, Brace and World, 1970), p. 381.

<sup>170</sup>Applebaum, "Methods for Determining," p. 140.

<sup>171</sup>Applebaum, "Evaluating Store Sites," pp. 1-35.

<sup>172</sup>This concept is similar to Lalonde's standard trade area. See Bernard J. Lalonde, "New Frontiers in Retailing Location," Current Business Topics, 1963, p. 8.

<sup>173</sup>Drawing power differs from attracting or pulling power. Lalonde identifies it as the "mean average" of the distance between the customer's residence and the location of the store. Determination of the parameter must take into account 90 percent of the total store patronage.



<sup>174</sup>Alfred Eisenpreis, "An Evaluation of Current Store Location Research," in New Directions in Marketing, Frederick Webster, ed. (Chicago: American Marketing Association, 1965), pp. 243-250.

### CHAPTER III

#### RETAILING SYSTEMS IN BRAZIL--PATTERNS OF CONTRAST AND EVOLUTIONARY CHARACTERISTICS

The analysis of the U.S. retailing system and its evolutionary dimensions allows us to describe the Brazilian system within the same framework. However, the marketing process in an economy like Brazil's has specific characteristics, such as a rapid rate of change and deep regional differences, which require an analytical approach focused on its particularities.

The rate of change in Brazil's retailing system is expressed in the number of new organizational arrangements, by the wide range of new and improved techniques applied to retailing management, and by the rapid degree of adjustment demonstrated by retailers operating in large urban areas in Brazil. Despite this rapid adjustment, which is impressive to the marketing observer, there are, pari et passu, a considerable number of institutions operating with lower-level technology in less developed areas of the country, or, in some instances, near their more modern counterparts.

In small cities, for example, one may see merchants selling food in barrels, using an out-dated system of measurement, and extending credit according to old fashioned methods, such as noting customers' debits in a common notebook. Sometimes, even in more advanced areas, it is possible to observe, pedlers selling fabrics door-to-door in areas where there are many large stores offering the same merchandise. Despite the wide adoption of self-service for nonfood items, one may see stores with many clerks standing idle in the doorway when there are no customers. Because of low-cost labor, these stores do not use modern concepts of maximum exposure, internal traffic patterns, and fast checkout. Many storekeepers still believe in the principle of large unit margin, do not apply techniques for improving stock turnover and do not use methods to identify economic order quantity (EOQ), although some of their competitors make a wide use of such techniques. These phenomena may be explained partially by the relatively low cost of labor, resulting from the inflationary trend that has been prevalent in the Brazilian economy. This factor may represent a rich field of analysis for inquiries based on the wheel pattern theory discussed previously.

#### Contrast Types

Differences in the level of marketing know-how and applied retailing techniques have been discussed in

the marketing literature and will be used here to explain the evolutionary characteristics of the Brazilian retailing system.<sup>1</sup> These differences may be divided into two broad categories: differences in time lag, or the time required for retail institutions to reach a similar level of applied technology; and spatial differences, or variations in the level of applied retailing technology observed in a specific period of time among institutions located in different areas. Sometimes it is possible to observe variations in the operational level of institutions located in the same area at a certain period. The two cases are exemplified by regional and local contrasts.

A simple scheme for classifying local and regional contrasts is suggested below:

---

| Type        | Retailing Contrasts<br>Relevant Characteristics  |
|-------------|--|
| 1. Regional | Reflect the operational patterns of retailing systems which differs from region to region. Is expressed by the diversity of institutions with a wide range of size, functions and sales volumes in different areas.  |
| 2. Local    | Reflect local differences in retailing patterns. Is expressed by the conditions through which, within a same area is likely to be observed, retailing institutions operating with a wide range of variation in their operational and applied retailing techniques. |

---

Regional contrasts are constantly changing and being lessened by the impact of economic development more specifically, by improvements in national highway networks, which create better communication, and by mass production, which requires mass retailing.<sup>2</sup> The regional contrasts may be explained in terms of regional economic descriptors and fall mainly within the framework of a macromarketing analysis.<sup>3</sup>

Local contrasts may be observed within urban areas and are being reduced at a rapid rate because of urbanization, the increase in automobile production, and the impact of the diffusion of marketing techniques. The pace of change, of course, is faster in more advanced urban areas, where new institutional arrangements have been introduced into the marketing scene during the last two decades. These have transformed the environment and have hastened the decline of old-fashioned noninnovative institutions much more rapidly than marketing analysts could have predicted ten years ago.

#### Contrast Characteristics

In 1959, Donald Taylor made a comprehensive analysis of the retailing system in Brazil. It included a synthesis of the retail institutions in that country and their evolutive operational characteristics. The author mentioned the contrasts in the level of marketing among

different areas. Taylor's attempt at a taxonomy of retailing institutions in Brazil points out the similarities between the operational patterns of various stores in Brazil at that time and of their U.S. counterparts forty years previously. Taylor stated that general stores located in sparsely populated areas of Brazil were similar to the U.S. general store, especially regarding the variety of merchandise (hardware, food, and textiles).<sup>4</sup>

Taylor also noted that several stores were performing such functions as extending credit on a year-to-year basis, barter, and extensive haggling. Interestingly enough, similar functions were once performed by U.S. general stores.<sup>5</sup> The major dimensions of the retailing system in Brazil as observed by Taylor, may be schematized as in Table 5.

Taylor's study was a synthesis of the retailing climate in Brazil ten years ago and furnishes a good background for analyzing the existing contrasts within the system today, as well as its evolutionary traits.

#### Theoretical Explanation of Contrast Patterns

The origins and the causes of regional contrasts from a macroperspective are outside the confines of this dissertation, whose scope is focused on a microperspective of the marketing process and, more specifically, the retailing system.<sup>6</sup> However, the specific characteristics of the

TABLE 5.--Taxonomy of Brazilian Retailing System--1960.

| Types of Retailing                    | Operational and Locational Features  |
|---------------------------------------|--|
| a. General Store<br>(1910-1940)       | Selling hardware, food, and textiles, located in small towns, generally one to three stores in each location, surviving rural areas in the surroundings, extensive haggling and sometimes barter were used in transactions. Extended credit according to the seasonal crops. <sup>a</sup>  |
| b. Farm-owned Store<br>(1900-1940)    | A quasi food grocery owned by farmers to sell bare essentials to workers. <sup>b</sup>   |
| c. Limited-Line Stores<br>(1920-1950) | Stores selling groceries and textiles located in larger towns and cities, with an extensive level of personnel sales service and person-to-person monthly credit; the volume of operation related to the size of the community.  |
| d. Specialty Store<br>(1930-1960)     | Dealing in nondurables and durables such as candy, umbrellas, shoes, mens shorts, lingerie, and so forth; located in large metropolitan areas in outlying shopping districts and the CBD. Stock assortment with narrow depth in the lines carried.   |
| e. Department Stores<br>(After 1930)  | Operating on a similar basis as their American counterparts, selling a broad range of products, using extensive installment credit, and located in the CBD. High operational cost due to no self-service. These department stores mainly originated from international retailing corporations. <sup>c</sup>                              |
| f. Supermarket<br>(After 1953)        | The first institution of this category was founded in Sao Paulo in 1953. It was the first type of Brazilian institution to use self-service and scrambled merchandising. Supermarkets cater to the upper-income segment of the population and face a great deal of competition from the <u>armazens</u> and <u>feiras</u> . <sup>d</sup> |

Source: Adapted from Taylor, "Retailing in Brazil."

<sup>a</sup>The chronology is an attempt to indicate relevant periods of rise to decline of the diverse institutional categories. There is no published secondary data on this subject with the exception of some for particular areas or cities.

<sup>b</sup>These institutions disappeared due to labor legislation and better transportation facilities.

<sup>c</sup>The best example of these stores are the British and French stores operating in Sao Paulo and selling mostly imported goods in their initial stages, such as Mappin Stores and Mester and Blagge (Mesbla).

<sup>d</sup>Armazens are food stores selling over the counter and offering personal credit on a monthly basis. Feiras are "travelling open markets made up of a large number of independent vendors who set up a portable stall in streets near residential areas, in the early morning and dismantle the entire market by noon" (Taylor, "Retailing in Brazil").

contrasts and their relationships with microregions and urban structures must be the subject of some concern.<sup>7</sup> These contrasts can be explained empirically if one considers that retailing is a localized activity and that the "bulk of any establishment's sales are originated from persons (with a certain level of income) within the immediate surrounding area."<sup>8</sup> The structure of retailing, from one perspective, reflects the level of economic development of its micro-region, and, from a more narrow viewpoint, its function within the urban environment in which it operates.

Regional Contrast Patterns.--The reasons why retailing systems in Brazil present deep operational contrasts within the country are universal and can be compared on a theoretical basis with explanations of the same phenomena elsewhere. The differences stem from "economic dualism," which, in its overall dimensions, indicates the existence of higher level marketing activities in urban areas, which possess structural determinants conducive to an extensive degree of specialization. Among these determinants the following may be mentioned: (1) population distribution and characteristics; (2) distances and travelling time interrelationships; (3) restrictions on spatial clusterings; (4) type of stores, product assortment, and reputation; (5) overall physical dimensions and shapes of trading centers and surrounding territories; (6) nature of communication services; and (7) historical factors.<sup>9</sup>



All of these determinants also may be taken as guidelines to describe the specific characteristics of the retailing system in a large metropolitan area such as S. Paulo. They can furnish a basis of comparison for sales and their trends, and they also may be used to investigate the relationship between the number of retail establishments and population trends and densities. In addition, these determinants are useful in studying the emergence of new retailing institutions and their locational patterns, since the environment provides certain operating conditions which limit the scope of the firm's activity and affect its organizational structure.<sup>10</sup> The determinants which have created the higher level retailing system in S. Paulo will be discussed later according to the framework developed above.

Local Contrast Patterns.--Despite the homogeneity within microregions in a changing economy like Brazil's, it is possible to observe local contrasts. These are most common in areas of the country where the polarization of economic growth and the process of urbanization have created conditions in which coexist peddlers and specialty stores selling textiles; open markets (feiras) and modern supermarkets selling meat, fish, and produce; push-cart milkmen and large dairy product chains; and unplanned commercial clusters and regional planned shopping centers. The reasons for these dualities in Brazil may be found in the economic,

social, and anthropological variables acting upon the system, which may include any or all of the following:

1. Limited markets, due to lower population densities and purchasing power, such as rural areas in the Northeast;
2. low value of labor, which generates labor-intensive retailing operational patterns;
3. significant differences in economies of scale, a product of 1 and 2, which preclude sufficient volume to operate institutionalized retailing;
4. lack of initial capital for investment, since only recently has the economy become geared to improving marketing operations;
5. differences in shopping habits among the several segments of the market, a function of differences in income, education, mobility, and mass media exposure;
6. legal barriers to entry (protectionism), which usually result from laws to protect certain strong political groups such as farmers and fishermen;
7. poor transportation and communication facilities, due to the slow expansion of the automobile and telecommunications industries between 1940 and 1960;
8. conservatism on the part of those who want to maintain the status quo;<sup>11</sup> and
9. rigid laws concerning land use and labor relations.<sup>12</sup>

For example, until recently supermarkets were not recognized as retailing institutions, Even today, in some cities, unions prevent merchants from opening their establishments during evening hours or weekends.

Another theoretical and more economically oriented explanation for this dualism (although not written specifically about the Brazilian case) is given by Reed Moyer:

the technical efficiency is low, but before condemning retailing as an activity encouraging a misallocation of resources, one must recognize that opportunity cost conditions support the excess use of labor on economic efficiency grounds.<sup>13</sup>

Local contrasts are likely to decline faster than regional contrasts; the confrontation of modern methods of retailing with old manners of doing trade leads to survival of the stronger and more adaptative members of the system, who are capable of making ecological or environmental adjustments. This type of institutional behavior is a necessary condition for survival within an evolutionary system.

#### The System's Evolution

A comparison of the present stage of Brazilian retailing with the observations made by Taylor ten years ago yields a neat illustration of an "evolutionary process by which alterations occur in the structure and function of the system."<sup>14</sup> Within this frame of reference, it can be said that during the last decade changes in the Brazilian retailing system brought both modifications in functional

dimensions and in the specific characteristics of retailing institutions.

The present analysis will be focused on the following points: (1) the changes in the level of performance of existing institutions, taking as a framework the taxonomy developed previously; (2) the emergence of new (in relation to the environment) retailing institutions; and (3) a brief analysis of the development of retailing in the GSPMA. The analysis of points one and two will refer to institutional changes occurring in Brazilian retailing (mainly in urban areas) without focusing attention on any specific region; the discussion of point three, however, will be narrowed down to the metropolitan area, which is of particular interest to the present dissertation.

#### Changes in the Level of Performance

One general trend in the past ten years has been the expansion of the distribution network of retailing firms. Many dealers in home appliances and apparel now operate several branches located not only in the same city, but also in other cities and sometimes other states.<sup>15</sup> Due to the government's policies toward import substitution begun in 1957, the local mass production of electrical home appliances has created the opportunity for stores to carry well-known brand names and sell broader lines of refrigerators, washing machines, and TV sets.<sup>16</sup> Some limited steps

toward franchising have been taken on an informal basis by well-known restaurant owners, who have opened outlets under their trade name which they sell to franchise operators.

Relations with customers during transactions have been improved substantially. Although a bill of sale still is written for cash purchases in some stores, there is a generalized use of automatic cash registers, principally in supermarkets and large department stores. Post-transaction activities, such as delivery and installation of high ticket items like TV's and stereo systems, have been improved. This is mainly because many chain stores are using and operating distribution centers, from which the merchandise is shipped directly, thus reducing delivery costs and raising the service level.

There have been serious legal restrictions on retailing. Until 1958, supermarkets were not recognized by trade laws, and in Rio de Janeiro and the State of S. Paulo, supermarkets gained official license to operate only in November, 1968. Despite these and other restrictions, some progress has been made, for example, more flexible operating hours and scrambled merchandising in supermarkets have been introduced.<sup>17</sup>

It is in the area of credit that the retailing system in Brazil has demonstrated the greatest ability to innovate and to adjust to new market conditions. As Taylor mentioned, ten years ago credit was granted mostly on a personal, monthly basis. Today, the system makes

extensive use of mass credit, which is supported by the so-called financeiras<sup>18</sup>; by new and flexible legislation regulating the creditor direto ao consumidor<sup>19</sup>; and by the emergence of several credit card institutions which sometimes are owned by commercial banks.

Among all the retailing institutions in Brazil, those which have demonstrated the largest growth are the supermarket, which in the city of S. Paulo alone number over three hundred. These institutions, which were subjected to many restrictions in their initial phase, now are completely accepted in the Brazilian market and are growing at a significant rate. Supermarkets first began operating in S. Paulo and now may be found in almost every state in the country.

Supermarkets originally were a nonconforming example of the wheel pattern, but now are strongly entrenched in the retailing of foods to the lower and middle classes. After many years of operating without formal legal support, supermarkets have gained local legal recognition and even federal financial institutions are providing long-term loans; these are being used to expand the number of outlets of existing chains and to improve present facilities.<sup>20</sup> They first were located in commercial strips near higher income residential areas and only in larger cities. Now they have moved to suburban areas and to smaller towns and cities. Many stores have off-street parking and modern layouts, with warehouse space and meat cutting sections.

These institutions have had an impact on buying habits, since self-service and attractive merchandise displays have lured men as regular weekend shoppers, a task previously performed only by housewives and maids. The supermarket concept in cities and towns in the hinterland of the State of S. Paulo has changed the old casa de secos e molhados into modern self-service food retailers.<sup>21</sup> In Ribeirao Preto, a wealthy city in S. Paulo, for example, local supermarkets are aggressive in pricing; as a result, they draw business from smaller towns in the vicinity for a radius of approximately fifteen to twenty miles.

In small towns, supermarkets locate in or near the CBD. Few of them have tried locations outside the central city nucleus. According to private sources, these institutions in smaller cities account for 30 to 80 percent of total food sales, a significant amount when one considers that they began operating less than twenty years ago.<sup>22</sup>

#### Emergence of New Retailing Institutions

The discussion of new retailing institutions in Brazil will follow guidelines suggested by Ralf Linton which are adapted to the perspectives of this dissertation. The word new must be interpreted in relative terms since what is considered new in one system is not in another. According to Linton,<sup>23</sup> innovations must have some specific elements of form, function, and

meaning before qualifying a method, technology, or institution as new.

Drawing upon Linton's concepts, it is possible to say that a retailing institution is new in form when it presents directly observable physical characteristics that are different from previous institutions. An institution is new in function when it can induce alterations in the previous buying behavior of the individuals or households within its area of influence. Finally, an institution is new in its meaning when it is perceived objectively or subjectively as new by its customers.

The last concept is rather difficult to explain in other fields of social science, but it seems to be more concrete in retailing. Accordingly, the meaning of a new retailing form of operation may be conceived of as the increase of preference in relation to previous alternatives, or as comparable with a greater feeling of convenience being introduced into the system by the interaction of the customers and the new form of retailing organization. For example, a shopping center which offered parking and one-stop shopping in an area where there previously existed only unplanned commercial clusters would be preferred by most shoppers, who would regard it as a more convenient place to shop.



Consequently, shopping centers, hipermercados,<sup>24</sup> and some new forms of service retailing offered in Brazil are new in relation to a particular market; they have changed the physical dimensions and spatial locational patterns of the conventional downtown department store and their suburban branches. Another effect of the evolution of these new institutions, aside from their impact on store design and locational decisions, and one that seems more relevant, is their influence on the value of land. The impact has been twofold: the value of outlying land has increased because of consumer preferences for alternative locations, and the rent value of land already in use at conventional locations has decreased.<sup>25</sup> Since shopping centers in GSPMA will be described and discussed in more detail in chapter 4, at this point only the other new forms of retailing will be mentioned: hipermercados, multinational operations, leasing of automobiles, and credit institutions.

Hipermercados.--The hipermercados draws upon the concepts of joint operation, completeness of offerings, and discount prices. The first such store was inaugurated recently in the GSPMA; it belongs to a large supermarket chain and was installed on the premises of an empty factory building. It offers a complete line of products, both in depth and width, and an extensive range of services

such as carry-out food, laundering and pressing, car sales, banking and financing, and cooking lessons; these numerous services may be explained by the relatively low cost of labor in the area.

The hipermercado, also called Jumbo, is located on a nine-acre site, has about 100,000 square feet of building area, and is arranged in a cluster design. Although far from attaining the conceptual organization and dimensions of a real and planned shopping center, this institution does reveal a great deal of the evolutionary trends of the retailing system. The same chain plans to open a second store in 1972, and another is scheduled for Brasilia, the new capital of Brazil.<sup>26</sup>

Multinational Operations.--Another feature of the evolving Brazilian retailing system is the multinational company. For example, the same chain which owns the hipermercado described above operates on an international scale; they own supermarkets in Lisbon, Portugal, and are planning to open a hipermercado in Luanda, Angola.<sup>27</sup> It is interesting that the growth of the Brazilian consumer market has attracted these international storekeepers. Recently, a Japanese chain, Yaohan Department Stores and Company, began operations in S. Paulo with a similar supermarket-discount department store. It is located in the suburbs, has 60,000 square feet of building area, and has 100 parking spaces on its third floor.<sup>28</sup> It is too

early to evaluate the eventual result of this multi-national trend, but it does indicate an increasing internationalization in the Brazilian retailing pattern.<sup>29</sup>

Automobile Leasing.--In the area of service retailing, automobile leasing has expanded significantly in the past decade. There are numerous local firms leasing Brazilian-made cars, and recently a large American firm entered the Brazilian market.<sup>30</sup>

Credit.--Also in the area of service retailing, credit has grown tremendously. Its use has gained extensive acceptance among large urban retailers, and credit systems are operated and controlled by banks, similar to the U.S. pattern. This development, of course, is related to the introduction and expansion of electronic data processing methods in the country.

#### Development of Retailing in the GSPMA

The evolution of the retailing system in the GSPMA will be viewed from the following perspectives: (1) an analysis of the historical aspects; (2) a description of institutional changes in the area; (3) a study of changing locational patterns; and (4) a simplified chronology of the principal relevant periods in this urban area's development. At this point, no attempt will be made to deal with demographic and secondary data related to the system; they will be examined in detail in

the descriptive analysis of the shopping centers in and urban characteristics of the GSPMA.<sup>31</sup>

#### Historical Periods.

##### A. 1900-1945

As has been previously mentioned, the city of S. Paulo is the economic and political center of the state. Founded in 1554, it became the largest and richest city in Brazil due to several socioeconomic factors such as coffee production, a large immigration coefficient, and its industrialization in the early 1920s.

In such an environment the first large retailing institutions appeared in the beginning of this century. Most of these stores were branches of large international groups, which operated in the import and export trade. Basically, these firms imported and sold durables and consumer goods to high-income segments of the population. They were organized into departments, but they operated for many years without any of the mass retailing methods used by their U.S. contemporaries. Stores were located in the downtown area, which at this time was the exclusive shopping district of the city. Since they served a small limited segment of the population, most of their sales were in cash; no credit system was used other than the traditional monthly charge

account granted to a select number of privileged customers.

Other institutions in the retailing system at this time were handicraft stores, small stores selling a few national products, food importers, and retail service institutions. There was no native automobile industry, and cars generally were imported from the United States.<sup>32</sup>

The 1929 depression and World War II had two considerable impacts on the city's economy. S. Paulo's industrilization was retarded, and coffee exports, upon which it depended heavily during this decade (1930 - 1940), were considerably reduced.<sup>33</sup>

#### B. 1945-1955

S. Paulo's retailing system did not change notably until the end of World War II. The decade from 1945 to 1955 can be described as the initial phase of the take-off: new industries expanded, new techniques were spread in agriculture, and the urban explosion became a reality. Consequently, the need to adjust and to improve the distribution system became apparent. Among the outstanding events of this period, one was especially significant: in 1955 import substitution policies were inaugurated to correct Brazil's balance-of-payments

deficit. As a result of these policies, which were supported by restrictive customs regulation and by generous allowances for importation of duty-free industrial installations, the local mass production of home appliances and the creation of an automotive industry became a reality in 1956. Industrial urbanization emerged, which had a serious impact on the structure of large cities like S. Paulo, Belo Horizonte, and Porto Alegre. The effect of these changes on the urban environment brought widespread, substantial adjustments in the retailing system of the GSPMA. In addition, large foreign retailing institutions were bought by Brazilian groups, thus opening the capital to the public.<sup>34</sup>

Realizing the market opportunity to distribute the massive production of the Paulista industries, many national retailing groups and enterprises were immediately organized. Initially involved were wearing apparel, electrical home appliances, and durable goods, and, later, unusual locally produced goods. These institutions, following the old pattern, were located in the CBD, although they used, by means of technology transfer, modern techniques of contemporary U.S. retailing. These included installment credit, newspaper price advertising and promotion, departmentalization, and scrambled merchandising.

A remarkable change in the traditional locational pattern was introduced by Sears, Roebuck and Company, which started its operations in S. Paulo outside the CBD. Since most of the sites adequate for retail trade already were occupied by independent stores in the so-called unplanned business districts, Sears chose to locate about three miles from the downtown area. This decision, which began a trend when some important retailers followed Sears' lead, can be understood as dynamic, ecological, and adaptive behavior of the retailing system. The main causal factors for the trend toward decentralization were: the dispersal of disposable consumer income; increased use of automobiles; increase of the city's urbanized area; traffic congestion; and changing buying habits in terms of marketplace preferences, frequency of shopping trips, and types of retailing stores selected to sell specific household needs.<sup>35</sup> This move toward decentralization was not accompanied by substantial change in stores' physical facilities or design.

## C. 1955-1965

No other segment of marketing reacts so quickly to changes in the environment as retailing. The proof of this proposition in the GSPMA can be observed in the decade between 1955 and 1965. In 1955, many definite patterns in Brazilian economic development were established, new policies in international trade were enforced, and, in 1957, the automobile industry began operation. The process of industrialization brought about population growth within the boundaries of S. Paulo, and during this period many social habits changed drastically. In addition, industrial workers began to participate in the retailing system with their limited but increasing disposable income. Many segments of the middle class widened their horizons by taking small trips, buying inexpensive sports supplies, and shopping for low-cost home appliances, such as electric irons, radios, and blenders. There was a tremendous boom in ready-to-wear apparel.

Due to the spectacular increase of the S. Paulo metropolitan area, the decentralization trend continued. It became unprofitable for large department stores to remain in the CBD; they opened branches in suburban areas and initiated the use of more advanced operating methods, such as extensive credit promotion,



addition of several product lines, and the use of radio, newspaper, and television advertising. By 1960, the convenience of shopping in the GSPMA for those living in the cities of the interior became so apparent that the large merchants extended their operations to these areas, selling primarily durables and shopping goods. This period marks the origin of regional chain stores in the State of S. Paulo.

While the retailing system was responding to changes in the environment, other types of retailing outlets reacted with changes in store design. Several unique types of stores were planned and put into operation in the GSPMA, some of the most distinctive of which were the galerias.<sup>36</sup> These were located in downtown areas and along the already established commercial strips, and in some instances, they can be considered ancestors of the shopping center.

The lay-out of the galerias can be compared with the old European-style commercial covered mall; they generally were built perpendicular to the main street and had three or four floors connected by stairways or escalators. The most common tenants of these centers are boutiques, sophisticated specialty stores carrying a limited line and having

a high margin and high-price policy. The galerias' success was limited, and there are good grounds for saying they represent a fiasco in terms of adaptability and profitability. An exception must be made for those in excellent locations, but the success of most can be evaluated by considering that many of their little 500-square-foot stores were vacant for years after the building was completed.

D. 1965-1970.

During the last five years, traffic in the GSPMA has become chaotic; for the first time merchants have begun to mention their parking facilities in their advertising and to emphasize the convenience of decentralized locations. Since the layout of older stores does not permit rearrangement for private parking, many merchants have started renting vacant lots, sometimes 300 yards away, and posting advertisements of this convenience in front of their stores. It seems clear, then, that the socioeconomic conditions of the GSPMA were ripe for a new type of retail facility that could provide off-street parking. The environment, in other words, required the development of shopping centers.

In 1964, construction began on the first planned shopping center in S. Paulo. The event was extremely important from a number of viewpoints; in particular, in marketing it represented a landmark in store planning and design, and in real estate operations it also was unique since the environmental conditions of specific trade areas created an interesting set of planning, locational, and financing problems.

The Chronology Gap  
and the Contrast Patterns

Any overview of the development of the Brazilian retailing system must bear in mind that there is a definite time gap between the Brazilian and U.S. systems. This gap generally stems from lags in economic development, from variations in the process of institutionalization of business management,<sup>37</sup> and from variations in the specific trends of urbanization.

Any or all of these internal differences, which are peculiar to each system, may help explain, for example, why the general store in Brazil was followed by department stores, not by mail order houses. The primary cause in this instance was limitations imposed by the inefficiency of the Brazilian postal system. Differences in product mix planning may be explained by the low level of capital availability as compared with the United States.

Until 1965, the Brazilian profit philosophy implied that institutions should adhere to high margin-low volume policies, whereas in the United States these attitudes changed even before World War II. These contrasts exemplify the different operational levels in both systems, but testing their cause and effect relationships lies outside the scope of this dissertation.

The comparisons that will be made here between the Brazilian and U.S. retailing system will be oriented toward similar variables in the two systems, even though these variables are likely to be influenced by time lag. Furthermore, within this dissertation, these similarities will be noted only in conjunction with the operational characteristics of shopping centers, and no attempt will be made to explain causal factors. This approach assumes that evolution in the systems bears a close relationship with changes in internal (endogenous) variables, and that external variables have little or no effect upon the systems.

To illustrate the Brazilian evolutionary process and its time lag in relation to similar developments in the U.S. retailing system, a chronological table is presented. It indicates, decade by decade, the emergence of specific types of retailing operations in the Brazilian and U.S. environments. The usefulness of such a framework is limited to representing a summary

TABLE 6.--Comparative Chronology--American and Brazilian Retailing Systems.

| Period-Milestones   | Retailing Type               | U.S.A.  |         | Brazil |      | Sources and Comments  |
|---|------------------------------|---------|---------|--------|------|---|
|   |                              | R       | D       | R      | D    |   |
| I. Scarcity Retailing   | General Store                | 1800    | 1860(a) | 1910   | 1940 | (a) From Fred Jones, "Retail Stores in the US, 1800-1860," <u>Journal of Marketing</u> , I (October, 1936), 1360.   |
|   | Limited Line Store           | 1900    | 1939(b) | 1920   | 1950 | (b) From Gist, <u>Retailing Concepts</u> , p. 100.  |
|   | Farm Owned Store             |         |         | 1900   | 1940 |   |
| II. Specialization-Long Distance-Impersonal Retailing               | Department Store             | 1861(c) | 1945    | 1930   | -    | (c) From Paul H. Nystrom, <u>Economics of Retailing</u> (New York: Ronald Press, 1934), p. 179.   |
|   | Mail Order House             | 1890    | 1910(d) | -      | -    | (d) From Gerald B. Tallman and Bruce Blomstrom, "Retailing Innovations Challenge Manufacturers," <u>Harvard Business Review</u> , September-October, 1962, pp. 130-134.                         |
| III. Specialization   | Specialty Store              | 1920(e) | -       | 1930   | 1960 | (e) This was not a definite period, but a slow emergence in some micro-regions.   |
|   | Decentralization Chain Store | 1919(f) | -       | 1945   | -    | (f) Barger Study  |
| IV. Self-service  | Supermarket                  | 1930(g) | -       | 1953   | -    | (g) From Fred Alvine, "The Supermarket Challenged," <u>Business Horizons</u> , October, 1968, pp. 46-51.  |
|   | Discount                     | 1955(h) | -       | -      | -    | (h) From Davidson and Doody, "Leased Department as a Major Force in the Growth of Discount Store Retailing," pp. 39-46.   |
| V. Specialization-Decentralization-Mass Retailing-Special Buildings | Shopping Center              | 1945(i) | -       | 1964   | -    | (i) From the <u>Community Builders Handbook</u> , p. 271. The first US Shopping Center reported (1920) was the Country Club Plaza, Kansas City, Missouri, but the real up-rise came after 1945. |

R = rising trends

D = declining trends

OBS = The chronology for the Brazilian System was developed from the taxonomy developed previously in this chapter.

of the analysis up to this moment, but it may serve to trace eventual relationships between the stages of economic development in each country and the responses of their respective retailing systems.

It is interesting to note that, to date, the Brazilian retailing system has not made extensive use of mail-order shopping and that discount houses are not of great significance. The first phenomenon, as previously mentioned, may be related to the inefficiency of the postal system. The lack of discount stores is due to inflationary trends in the economy up to 1964 and because durable goods manufacturers strongly opposed discount houses, who were supported by specialized and exclusive dealers of national brand appliances.

From an overall perspective, the time lag between the innovations and evolution of the Brazilian and U.S. retailing systems averages about twenty years. Although, as mentioned, this dissertation will not investigate the causes and effects of this lag, the concept may be illustrated by the following diagram, which is deduced from the historical patterns discussed earlier.

TABLE 7.--Time Lag in the Development of U.S. and Brazilian Retailing Systems.

|                            | 1860 | 1880                           | 1900                                       | 1920  | 1940   | 1960               |
|----------------------------|------|--------------------------------|--|---|--|--------------------|
| Periods                    | I    | II                             | III  | IV  | V  | VI                 |
| U<br>S<br>A                |      | General Store<br>Limited Store | Department<br>Store<br>Mail Order<br>House | Chain Store<br>Specialty<br>Stores<br>Supermarket | Discount<br>Store  | Shopping Center    |
|                            |      |                                |  |   |  |                    |
| B<br>R<br>A<br>Z<br>I<br>L |      | General Store                  | Specialty<br>Store                         | Department<br>Store                               | Chain Department<br>Stores<br>Chain Specialty<br>Stores<br>Supermarket | Shopping<br>Center |

Each Interval = 20 years.

Greater S. Paulo Metropolitan Area:  
Urban Structural Evolution

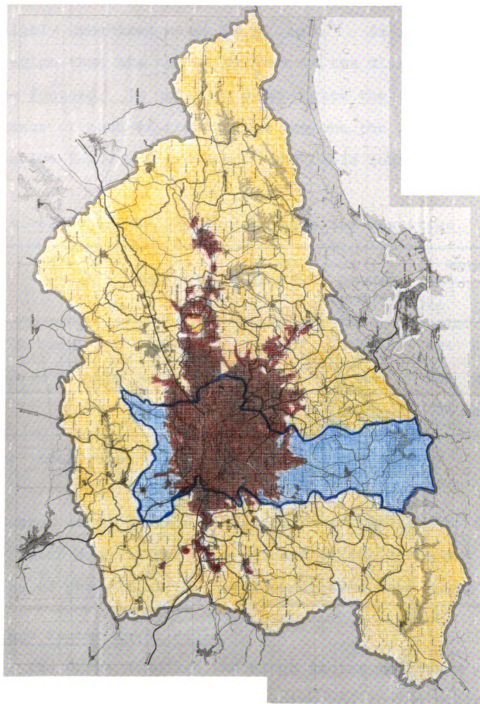
In analyzing the urbanization process in the S. Paulo area, the theoretical concepts previously developed will be applied to relevant secondary data. The first task is to locate and delineate the area, its variables, and its urban problems. This is not easy since even its boundaries are the subject of controversy. Today within the GSPMA, two geoeconomic and micropolitical regions may be identified: the City of S. Paulo and the Municipio of S. Paulo.<sup>38</sup> It is with these that we will begin (see Figure 7).

Population Descriptors

The greater S. Paulo metropolitan area is located in the southern part of Brazil in the State of S. Paulo (see Figure 8). It is legally defined as a metropolitan area,<sup>39</sup> encompasses 7.951 km<sup>2</sup>, and represents 3.2 percent of the state's total area.<sup>40</sup> Presently the GSPMA is composed of 37 municipios. Among these, the Municipio of S. Paulo plays an important role, particularly as the polarization point of urban population within the GSPMA and in its percentage of land use. According to the latest data furnished by the Brazilian census, the Municipio of S. Paulo has an area of 1.493 km<sup>2</sup> and a population of 5,978,977.<sup>41</sup>



Figure 7.--The Greater S. Paulo Metropolitan Area (GSPMA).  
This region contains three micro-regions: (a) the GSPMA (yellow); (b) the "municipio" of S. Paulo (blue); and the City of S. Paulo (brown). It is interesting to observe that the city's urban overpass the legal boundaries of the municipio.



For the purposes of this dissertation, another micro-region may be defined: the City of S. Paulo. This area, composed of 48 districts, concentrates 5,186,752 inhabitants in a highly urbanized space of 857 km<sup>2</sup>.<sup>42</sup> It is on this microregion that the normative part of the dissertation will be focused. In order to demonstrate the relative importance of each of these three regions, the following comparative table was prepared. The table indicates the

TABLE 8.--1970 GSPMA--Population, Area and Densities.

| Area                  | (1)<br>Population | (2)<br>Area Km <sup>2</sup> | (3)<br>Density<br>(1)÷(2)=(3) | Percent |       |
|-----------------------|-------------------|-----------------------------|-------------------------------|---------|-------|
|                       |                   |                             |                               | Pop.    | Area  |
| City of S. Paulo      | 5.186.752         | 857                         | 6.052                         | 63%     | 10.7% |
| Município of S. Paulo | 5.978.977         | 1.493                       | 4.004                         | 73%     | 18.7% |
| GSPMA                 | 8.206.129         | 7.951                       | 1.032                         | 100%    | 100 % |

Source: IBGE 1970, Censo Demografico S. Paulo).

high degree of population polarization in the City of S. Paulo, which constitutes 10.7 percent of the GSPMA but contains 63 percent of the total population (see Table 8).

#### The Hinge Factor in S. Paulo

The GSPMA displays the hinge factor mentioned by Gottman; it has grown without planning and zoning policies

adjusted to its dimensions, and its growth cannot be halted unless the outlying regions also stop growing. The absence of good public transportation, associated with twenty years of scarce supply of automobiles, has forced all public services and tertiary activities to concentrate in the core of the city and around narrow land ribbons following the major axes. Actually, this scheme functioned well until 1950, when the area had about 2.2 million inhabitants. Subsequently, however, with the continuous growth of the metropolis and the emergence of the automobile industry, traffic conditions in the inner city became chaotic. Speeds average less than 12.5 miles per hour,<sup>43</sup> and this rate drops drastically in rush hours when the movement toward central locations is through a limited number of major radial roads. It is along these roads that retailing stores generally are located, a factor that serves only to increase congestion due to the absence of off-street parking facilities.

As can be seen in Table 9, the population of S. Paulo has grown at a geometric rate during the last three decades.<sup>44</sup> Such an increase in population will heighten the demand for tertiary types of activities since most of the increase is due to internal migratory contingents. These are employed in the secondary sector and are likely to demand immediate services and facilities from the tertiary sector.<sup>45</sup>

TABLE 9.--City of S. Paulo--Demographic Growth.

| Period      | Average Yearly Rate |
|-------------|---------------------|
| 1940 - 1950 | 5.05 %              |
| 1950 - 1960 | 5.23 %              |
| 1970 - 1980 | 4.97 % (projected)  |
| 1980 - 1990 | 4.64 % (projected)  |

Source: PUB Plan Urbanistic Basic.

In absolute terms the growth of the City of S. Paulo also is impressive. Table 10 shows population coefficients, growth since 1900, and projections up to 1990.<sup>46</sup> The

TABLE 10.--City of S. Paulo--Population 1900-1990.

| Period | Population (000) | Index | % Growth |
|--------|------------------|-------|----------|
| 1900   | 240              | 100   | 0        |
| 1910   | 430              | 186   | 86%      |
| 1920   | 579              | 241   | 34%      |
| 1930   | 950              | 395   | 64%      |
| 1940   | 1,305            | 543   | 37%      |
| 1950   | 2,154            | 897   | 65%      |
| 1960   | 3,709            | 1,290 | 72%      |
| 1970   | 5,978            | 2,490 | 61%      |
| 1980   | 9,476 (Est.)     | 3,948 | 58%      |
| 1990   | 14,347 (Est.)    | 5,977 | 51%      |

figures indicate that S. Paulo has increased its population about 25 times since 1900, and that during the next two decades it is expected to increase more than 2.4 times. It also is interesting that percentage increases in the population during five of the last seven decades have been above 60 percent. The two exceptions are the 1910s and 1940s, which were years of international conflicts that affected the industrialization process of the metropolis.

The location of such a large population in so small an area has led to inadequacies in the urban infrastructure; there is high concentration in the core of the city, which has a high residential density and a great deal of traffic congestion.

#### Urban Area Structural Changes

Prior to World War II.--The growth of the GSPMA since its foundation in 1554 has followed an interesting pattern of urban structure and it may be explained empirically by the theories we have examined.<sup>47</sup>

The initial central nucleus, settled in the colonial period, is today's CBD. Around this original settlement other small pioneer villages clustered for strategic purposes (see Figure 9-a), but the nucleus was and has remained the center of trade and political activities. During this phase the urban structure followed



**FIGURE 8**  
**LOCATION OF THE STATE OF SAO PAULO**

Burgess's typical concentric zone pattern. Obviously, no other circles were present at this time (seventeenth century), but the eventual location of trade and residential areas were very consistent with his scheme.

In 1876 the first railroad linked S. Paulo with Santos, the major port of Brazil; other railroads followed, which increased the attraction of the central nucleus, where their terminals were located. The railway exercised a great centrifugal force on the growth pattern of the city, and by 1900 it displayed the star-shaped contours of Hurd's axial growth theory (see Figure 9-b).

Regarding Hoyt's theory, in the city's initial stages, up to the 1920s, land use for trade and residential areas followed definite sectorial patterns; industry and low-income sectors were in the northern part of the city, and well-defined high-income neighborhoods were in the southwest.

In the late thirties up through the forties, the emerging highway network had an impact on the city's structure quite similar to that of the railways. Roads expanded the urbanized area of the city, but since they served mainly for production transportation and for mass transit purposes, they reinforced the role of the CBD, where they converged, as the most important trade area in the city. During these phases, the structure still displayed



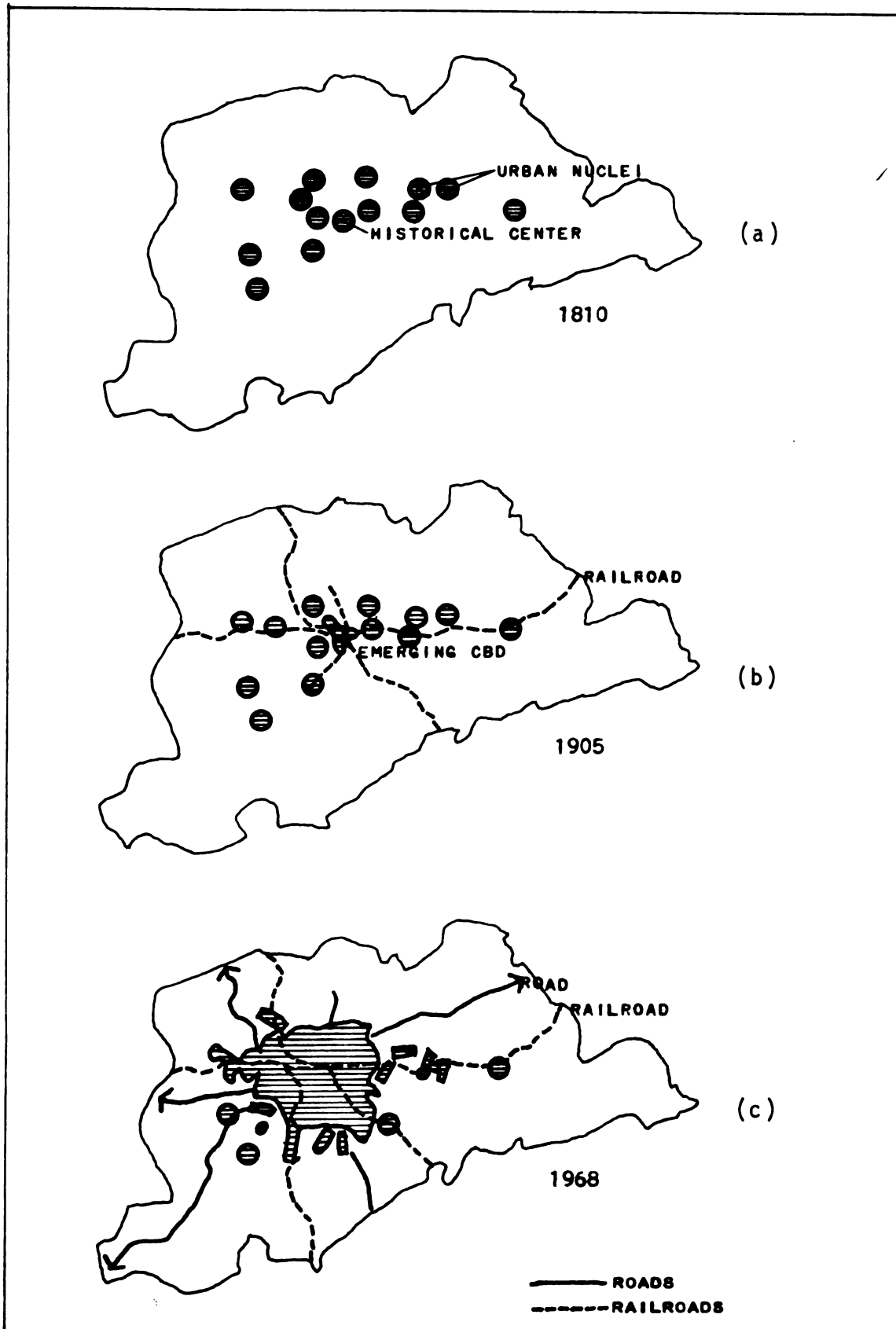


FIGURE 9  
EVOLUTION OF THE S. PAULO URBAN AREA

the star-shaped pattern with large empty spaces between the major radial axes.

After World War II.--After 1940, as the city and its population grew, trade began to decentralize. This ecological, unplanned trend followed the major radial transportation axes, which became transformed into commercial axes.<sup>48</sup> At this stage S. Paulo began its period of metropolitan life (see Figure 9c), and its configuration was highly consistent with Harris and Ullmans' polynuclei concept. The absence of private transportation maintained the CBD as the major pole of attraction, which created a peculiar pattern. Despite the existence of numerous urban nuclei, there still is a great deal of dependence on the CBD and the major commercial axes for retailing purposes. According to official sources, approximately two million people commute daily to the CBD, and more than 100,000 daily trips to the downtown area for shopping purposes are by private transportation.<sup>49</sup>

This pattern of shopping movement over the urban space reflects a type of behavior consistent with locational characteristics prior to the emergence of the automotive industry in Brazil. Today, however, this spatial shopping behavior must be changed for several reasons:

a. The rise in automobile ownership gives consumers more freedom to select areas other than the CBD.

b. The CBD has only 34,000 parking spaces,<sup>50</sup> and the continuation of shopping in the area will only increase traffic congestion.

c. Retailing institutions can find locations with lower land value in peripheral zones.<sup>51</sup>

d. The decentralization of retailing along commercial strips would not reduce congestion in the inner city, since these routes should be used for through traffic and not as parking space for the customers.

This brief analysis demonstrates that S. Paulo has passed through deep transformations since its settlement, and that today there is a need to induce modifications in its operational characteristics in order to increase the quality of urban life.<sup>52</sup> The opportunity for change is now, before the effects of the automobile are felt even more. It is necessary to recognize the structure of the urban fabric and introduce a program of modifications with priorities, among these, retailing location seems to be one of the most important.

Despite differences in some of the characteristics of the urban structure, such as low-income groups located in the periphery, it is likely that the impact of the automobile and the construction of new rapid transit

routes will enhance the escape to the suburbs. A new belt of middle class population will form at the periphery, reinforcing the opportunity for retailing decentralization at strategic sites.

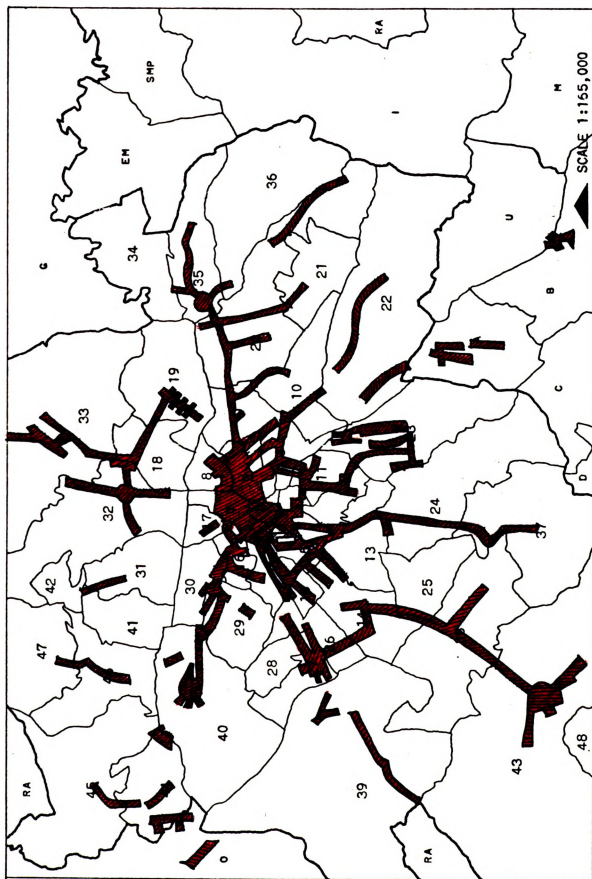
The Plano Urbanistico Basico (PUB) studies mentioned that the automotive industry, since its advent in 1957, has been affecting S. Paulo's urban structure by offering public and private transportation to areas unreachable by suburban railroad routes. A negative outcome has been the increasing congestion in the downtown area and the commercial strips.<sup>53</sup> The same report notes, however, that in many urban areas the use of automobiles has changed the patterns for retailing location.<sup>54</sup>

Retailing in the Greater S. Paulo  
Metropolitan Area: Problems  
and Trends

Land use studies conducted by the city of S. Paulo municipal government indicate that only 8 percent of the total urban area is used for commercial activities. Of this area, one-third is located in the CBD and the remainder occupies the major radial axes in a maximum radius of seven miles around the city's inner core (see Figure 10).<sup>55</sup>

S. Paulo's general trade location pattern, with a powerful CBD and many unplanned commercial clusters in the

Figure 10.--City of S. Paulo. Commercial land use--the commercial location is mapped in their principal cluster and commercial steps around the CBD (commercial land use = red).



outlying areas linked by several commercial ribbons,<sup>56</sup> is classic, but outdated. Because of these patterns, travel time and distance parameters required for shopping trips in the area have increased, despite the trend toward decentralization and the increase in car ownership. This condition is explained by the fact that the introduction of automobiles into an area with narrow streets and into a CBD with a high building density will hinder the eventual positive aspects of a better application of transportation technology.<sup>57</sup> According to the PUB, in order to avoid a possible repulsion stemming from these factors, it is necessary to create and implement a set of urban policies which could reduce the so-called "diseconomies of conglomeration."<sup>58</sup>

The analysis made by the city of S. Paulo municipal government indicates that the phenomena mentioned above are not a result of a total saturation of urban space, but are the product of the unplanned and outdated distribution of tertiary activities caused by the nonsystematic urban development of the city.<sup>59</sup> A great deal of emphasis must be placed on the actual location of tertiary activities as well as on their desired location. The basic policy suggested by the PUB is to decentralize those retailing activities located in the central part of the city, and, simultaneously, to preclude new stores from locating in the area.<sup>60</sup>

Interestingly enough, the city planners took into consideration the opportunity for the creation of shopping centers and neighborhood commercial clusters with small stores offering convenience goods and services.<sup>61</sup> The studies selected three priority areas (Santo Amaro, Itaquera, and Parelheiros) where shopping centers with regional characteristics should be located with the support and at the incentive of the municipal government.<sup>62</sup> The studies and plans analyzed here also recommend norms and regulations concerning future urban land use for commercial activities.

Assuming that automobile ownership will increase and that an adequate intraurban highway network will be completed, the PUB suggests, as a basic guideline, the location of commercial centers near the major interchanges at outlying locations. The report mentions that "the convenience which such institutions will provide to the automobile shoppers is so great in relation to the previous and old-fashioned forms of retailing that they will afford a guaranteed success."<sup>63</sup> The PUB also stresses the possible economies of scale which may be generated by the large size of these future centers. They probably will use the same amount of urban land, despite their larger size, because they will be able to avoid traffic congestion caused by the parking methods used at present locations.<sup>64</sup>



These PUB studies culminated in the establishment of an ambitious master urban plan. Its priorities, policies, and programs related to the future of tertiary activities in the GSPMA are extremely consistent with the propositions and objectives of this dissertation, so that a brief analysis of the studies seems justified.

In defining a general policy of urban development for the GSPMA, the PUB stresses "the need to promote the organization of urban land use in order to expand the opportunities for self-development and the availability of efficient urban activities."<sup>65</sup>

Concerning commercial land use, specifically, the plan emphasizes the following major goals, ranked hierarchically.

1. Metropolitan Level. In the metropolitan inner core, highly specialized commercial activities must be provided which allow for easy access and expansion of parking facilities. Simultaneously, programs leading to the decentralization of wholesaling and warehousing activities must be implemented.

2. Subregional Level. In order to avoid the continued polarization around the city's central zone, it is recommended that subregional centers be promoted to serve populations ranging from 1.0 to 2.5 million, with complete and integrated facilities for such

diversified activities as retailing, services, regional administration, educational facilities, and medical centers.<sup>66</sup>

3. Local Level. The PUB recommends the installation of "local trade centers" with general retailing facilities, recreation spaces, and ample parking areas to attract approximately 400,000 people. At this level the plan also suggests smaller centers to sell basic household needs.<sup>67</sup>

At the subregional level, the planners conceived gigantic community centers whose objectives are outside the scope of this dissertation; at the local level, however, the centers proposed by the city planners are quite similar to the shopping center concept as it is widely used in marketing and retailing theory. As the PUB indicates, the task of selecting locations for these local centers is beyond the range of city planning programs,<sup>68</sup> and requires a greater detailed analytical framework, which lies in the domain of marketing technology. Such a task can be performed by the application of spatial analysis to evaluate microregional economic descriptors. The remainder of this dissertation will be oriented to this objective. It will use secondary and primary data and surveys conducted at Brazilian centers as inputs to evaluate the feasibility of shopping center operations in the GSPMA.

FOOTNOTES: CHAPTER III

<sup>1</sup>For other frameworks in which to study retailing developments from a comparative perspective, see Stanley J. Shapiro, "Comparative Marketing and Economic Development," in George Schwartz, ed., Science in Marketing (New York: Wiley and Sons, Inc., 1968), especially chap. 14. Shapiro presents an interesting set of topics for discussion in relation to unsolved and neglected issues in comparative marketing and economic development. See also a seminal article by Edward Cundiff, "Concepts in Comparative Retailing," Journal of Marketing, 28, no. 1 (January 1965), 59-63; another useful reference may be found in Peter D. Bennet, "Retailing Evolution or Revolution in Chile," Journal of Marketing, 30, no. 3 (July 1966), 40-45.

<sup>2</sup>The rate of change and the decline in the economic gap between regions must be viewed in relative terms and with some reservation. A recent unpublished analysis conducted by Professor Leo G. Erickson demonstrated that the percentual market potential elaborated for all the states in Brazil did not change substantially despite the total increase of the whole system. This study was a reevaluation of a previous analysis made in 1962. See Leo G. Erickson, "Analyzing Brazilian Consumer Markets," MSU Business Topics, 2 (Fall 1963), 726-736.

<sup>3</sup>Lima, Shopping Centers, pp. 82, 125.

<sup>4</sup>Donald A. Taylor, "Retailing in Brazil," Journal of Marketing, 24, no. 3 (July 1959), 54-58.

<sup>5</sup>See Paul H. Nystrom, The Economics of Retailing, vol. 1 (New York: Ronald Press, 1934), p. 80.

<sup>6</sup>For a solid explanation of economic dualism in the Brazilian economy, see Celso Furtado, The Economic Growth of Brazil - A Survey from Colonial to Modern Times (Berkeley: University of California Press, 1968), pp. 264-70; for a general and more theoretical framework, see John R. Hicks, Essays in World Economies (Oxford: Clarendon Press, 1959).

<sup>7</sup>A microregion can be defined, for the purposes of this dissertation as a geographic space with homogeneous economic descriptors which may be served by one retailing system for shopping needs (accordingly, mail-order shopping is excluded).

<sup>8</sup>Douglas J. Dalrymple and Donald L. Thompson, Retailing: An Economic View (New York: The Free Press, 1969), p. 92.

<sup>9</sup>Adapted from David A. Revzan, A Geography of Marketing: Integrative Statement (Berkeley: University California, 1969), pp. 150-151. A detailed analysis of the framework suggested by Revzan seems to indicate that the determinants are typical of distributive areas; these are areas or microregions whose major influence is on centrifugal or distribution flows (*ibid.*, p. 146). Thus the assortment of products and their attractive appeal for surrounding areas become the focus of attention.

<sup>10</sup>Susan P. Douglas, "Patterns and Parallels of Marketing Structures in Several Countries," MSU Business Topics 19, 2, 39. In this article the author discusses the limitations of macroeconomic indicators to evaluate the marketing system, but suggests that "individual firms may respond in different ways and in varying degrees in environmental conditions." Thus, "the appropriate methodology would be to study the evolution of marketing structure over time" (p. 48).

<sup>11</sup>Adapted from Willard F. Mueller, "Some Market Structure Considerations in Economic Development," Journal of Farm Economics, 41, 2, 420-421.

<sup>12</sup>Karl Polyani, The Great Transformation (Boston: Beacon Press, 1957), pp. 76-77.

<sup>13</sup>Reed Moyer, "The Structure of Markets in Developing Economies," MSU Business Topics 12, 4:43-60.

<sup>14</sup>For a complete analysis of changes in social structures, see Everett M. Rogers and Floyd Shoemaker, Communication of Innovations, A Cross-Cultural Approach (New York: Free Press, 1971), pp. 7-17.

<sup>15</sup>An example of an organizational type is a chain store, Super-Lojas Arapua, which sells a complete line of home appliances and apparel. This firm has locations in two states, S. Paulo and Mato Grosso. The development mentioned here indicates local, regional, and national expansion.

<sup>16</sup>The most common names in this field are General Electric, Westinghouse, Phillips, and Philco.

<sup>17</sup>Recently a supermarket operator was forced to close at 6:30 p.m. instead of 8:00 p.m. simply because a 1956 city law, which never had been changed, indicated 6:30 p.m. was the regular closing time. Accordingly, operations on Saturday and Sunday in this city, St. Andre, S. Paulo are not permitted. Interestingly enough a public survey conducted in St. Andre indicated that 95 percent of the interviewers were favorable to evening and weekend time schedules (O Estado de Sao Paulo, [Brazilian newspaper] 6, October 1971).

<sup>18</sup>Financeiras are similar to savings and loan institutions in the United States.

<sup>19</sup>Credito direto ao consumidor is similar to the U.S. arrangement whereby the ultimate consumer is financed by commercial banks to buy durables such as cars, refrigerators, and TVs.

<sup>20</sup>A recent regulation from the Banco Nacional do Desenvolvimento Economico (BNDE) stated the conditions for financing up to US \$250,000 for the modernization and expansion of supermarkets (Resolution 389/71 from the BNDE, Rio de Janeiro, 16 April 1971, "Program of Modernization and Reorganization of Marketing").

<sup>21</sup>Casa de secos e molhados are similar to wet and dry goods stores.

<sup>22</sup>"Os supermercados em todo o lado," O. Estado de Sao Paulo, 28 November 1971.

<sup>23</sup>Ralf Linton, The Study of Man (New York: Applenton, Century, Crofts, 1936), pp. 402-404.

<sup>24</sup>Hipermercados are a conceptual and planned adaptation of U.S. supermarkets, discount department stores, and similar British institutions called superstores. In essence these stores are a huge complex composed of a complete department store, a supermarket, bank, and an automotive center. In Brazil there is only one owner, and the automotive center services cars and sells new and used units.

<sup>25</sup>For an extended discussion of the potential impact of shopping centers in Brazil, see Alberto de O. Lima Filho, "Shopping Centers como Novos Sistemas de Operacao Varejista," Revista de Administracao de Empresas, 9 no 2 (April-June 1969), 37-49.

<sup>26</sup>Journal do Jumbo [internal trade journal of the Jumbo Hipermercados], September 1971.

<sup>27</sup>Ibid.

<sup>28</sup>Supermercado Moderno, July 1971, pp. 4-9.

<sup>29</sup>For an extensive analysis of the forms, problems, and risks of internationalization of retailing operations see Stanley C. Hollander, "The International Storekeeper," MSU Business Topics, 17 (Spring 1969), 13-23.

<sup>30</sup>This firm is Hertz Rent-A-Car International.

<sup>31</sup>The information discussed here is based on previous research; see Lima, Shopping Centers, pp. 81-90.

<sup>32</sup>The growth of automobile registration in the GSPMA showed a slow increase up to 1960, followed by a rapid growth thereafter. These figures are:

| <u>Year</u> | <u>Number of Passenger<br/>Cars</u> |
|-------------|-------------------------------------|
| 1917        | 1,760                               |
| 1924        | 6,623                               |
| 1929        | 13,655                              |
| 1940        | 22,739                              |
| 1950        | 96,000                              |
| 1960        | 120,662                             |
| 1970        | 492,000                             |
| 1971        | 641,404                             |

Sources: (1) Juergen R. Langenbuch, A Estruturacao do Grande Sao Paulo (Rio de Janeiro: 1971), p. 152; (2) data from the Instituto Brasileiro de Cadastro (Niteroi: 1971); (3) the figures for 1960-1970 were taken from graphic estimates of the technical report of the Metropolitan Rapid Mass Transit System of the City of S. Paulo, pp. 171.

<sup>33</sup>Celso Furtado, Obstacles to Development in Latin America (Garden City, New York: Doubleday, 1969), pp. 14-15. The author discusses both events and stresses the dependence of a coffee-based economy on international affairs.

<sup>34</sup>Illustrative of these situational adjustments are the Mestre and Blagge, which become Mesbla S.A. and the Mappin's Stores, which became Lojas Mappin.

<sup>35</sup>For a complete discussion of these factors, see William R. Davidson and Alton Doody, Retailing Management (New York: Ronald Press, 1966), p. 113.

<sup>36</sup>Although galerias are similar to European-style covered open malls, due to the climate some of them are not covered in the GSPMA.

<sup>37</sup>Donald A. Taylor, "Marketing in Brazil," in Marketing and Economic Development, Peter D. Bennet, ed. (Chicago: AMA, 1965), pp. 111-115. In his analysis, Taylor demonstrates that differences in economic environment necessitate different sets of variables for marketing analysis relative to their intensity of impact and time lag effects, that is, the effects of formal marketing education.

<sup>38</sup>Município is a Portuguese word equivalent to county. According to the Brazilian legislature this is the smallest autonomous politico-administrative unit.

<sup>39</sup>Decree No. 48, 163, 3 July 1967, State of S. Paulo Government.

<sup>40</sup>The State of S. Paulo is 247,989 km<sup>2</sup>.

<sup>41</sup>VIII Recenseamento Geral (Rio de Janeiro: Instituto Brasileiro Geografia e Estatística, 1970), p. 143.

<sup>42</sup>PUB, vol. 2, p. 45.

<sup>43</sup>PUB, vol. 4, p. 123.

<sup>44</sup>PUB, vol. 1, p. 107.

<sup>45</sup>Ibid., p. 86. According to this report, 3 percent of the growth will be generated from immigratory sources, due to the hinge factor.

<sup>46</sup>These figures were compiled from O. Estado, 5 August 1965, and from PUB, vol. 1, p. 103.

<sup>47</sup>PUB, vol. 2, p. 21.

<sup>48</sup>Ibid., p. 44.

<sup>49</sup>PUB, vol. 4, pp. 17, 141, and Table T-34.

<sup>50</sup>Ibid., p. 151. These parking spaces may be classified as follows: 14,000--private parking; 20,000--public (curb parking).

<sup>51</sup>PUB, vol. 2, p. 138.

<sup>52</sup>For an interesting discussion of the subject, see Walter D. Harris, "Urban Quality in the Context of the Developing Society," in The Quality of Urban Life, pp. 186-210.

<sup>53</sup>PUB, vol. 1, p. 41.

<sup>54</sup>Ibid., p. 42.

<sup>55</sup>Ibid., p. 82.

<sup>56</sup>Ibid., p. 104.

<sup>57</sup>Ibid., p. 218.

<sup>58</sup>Ibid., p. 147.

<sup>59</sup>Ibid.

<sup>60</sup>Ibid., p. 148.

<sup>61</sup>Ibid., p. 149.

<sup>62</sup>Ibid.



<sup>63</sup>Ibid., p. 175.

<sup>64</sup>Ibid., p. 177. According to the PUB studies, 5 percent of total urban land should be used for retailing locations.

<sup>65</sup>Ibid., p. 304.

<sup>66</sup>Ibid., p. 319.

<sup>67</sup>Ibid., pp. 319, 343.

<sup>68</sup>Ibid., p. 344.

CHAPTER IV

THE SHOPPING CENTER INDUSTRY IN THE  
GREATER S. PAULO METROPOLITAN AREA

Introduction

Shopping centers are a newly developed type of retailing institution in the GSPMA. As mentioned in chapter 3, the first planned and controlled center began operation in 1965; after almost a decade, S. Paulo has only three shopping centers despite the size of its urban area and although this would be a better form of retailing locational pattern for a city which is increasing its automobile population at a rate of 30 percent per year (see Figure 11).

This chapter's major objectives are to analyze and compare the centers with each other and, when it proves meaningful, to contrast them with the operational characteristics of U.S. centers. The following analytical criteria will be used.

(1) Descriptive analysis of the overall dimensions, such as area of physical facilities, location in the city, store mix, marketing characteristics and orientation, organization and financial aspects.

(2) Analysis of the major operational dimensions.

The relation of retailing areas to parking areas, store mix as a percentage distribution of the total area, parking lot characteristics and capacity, trade areas, drawing power, customer patronage characteristics and financial aspects such as leasing agreements and construction financing.

The central objective of this study is to describe the overall dimensions of the shopping center industry in GSPMA and to analyze the operational characteristics of each center, having in mind their location within the city as discussed in detail in chapter 3. Thus, this chapter intends to evaluate the market power of each of the existing centers operating within the environmental conditions which also have been studied in the same chapter. The next chapter then will provide indications regarding districts or areas where shopping centers could be located. A major constraint to applying this technique is that data regarding sales volumes are limited to short periods of time and are for one center; information for other centers had to be derived from lease figures and percentages.

Relevant data and information were collected in several periods and with different objectives; consequently, the material must be categorized. The first category includes data collected by the author and other researchers in Brazil for purposes not specifically related to this dissertation.<sup>1</sup> The second includes

information assembled specifically for this dissertation in September 1971 by the author and a team of students from the School of Business Administration of S. Paulo. Despite time constraints and the lack of formal support from the Brazilian centers' owners and managers, this effort furnished data for a good analytical framework.

Iguatemi Shopping Center:  
Overall Characteristics

Iguatemi can be considered the first true planned and controlled shopping center in the GSPMA. Because of its location, its store mix, and the way in which it was planned and developed, it may be classified as a pioneering and unique experience in the development of Brazil's retailing system. It is located in district 26, near major traffic arteries, and is surrounded by high-income neighborhoods. It is 6.0 km. from the CBD. Its site, according to the classifications discussed in chapter 2, falls into the so-called secondary shopping area, and its location patterns in relation to the existing roads and streets may be defined as pivotal (see Figure 12). Iguatemi shopping center is adjacent to a large peripheral avenue (Faria Lima) and to one of the major, newly developed freeways (Nacoes Unidas) which runs beside the Rio Pinheiros. These thoroughfares and the characteristics of the adjacent district give the center one of the most privileged locations within the city's urban area (see Figure 12).

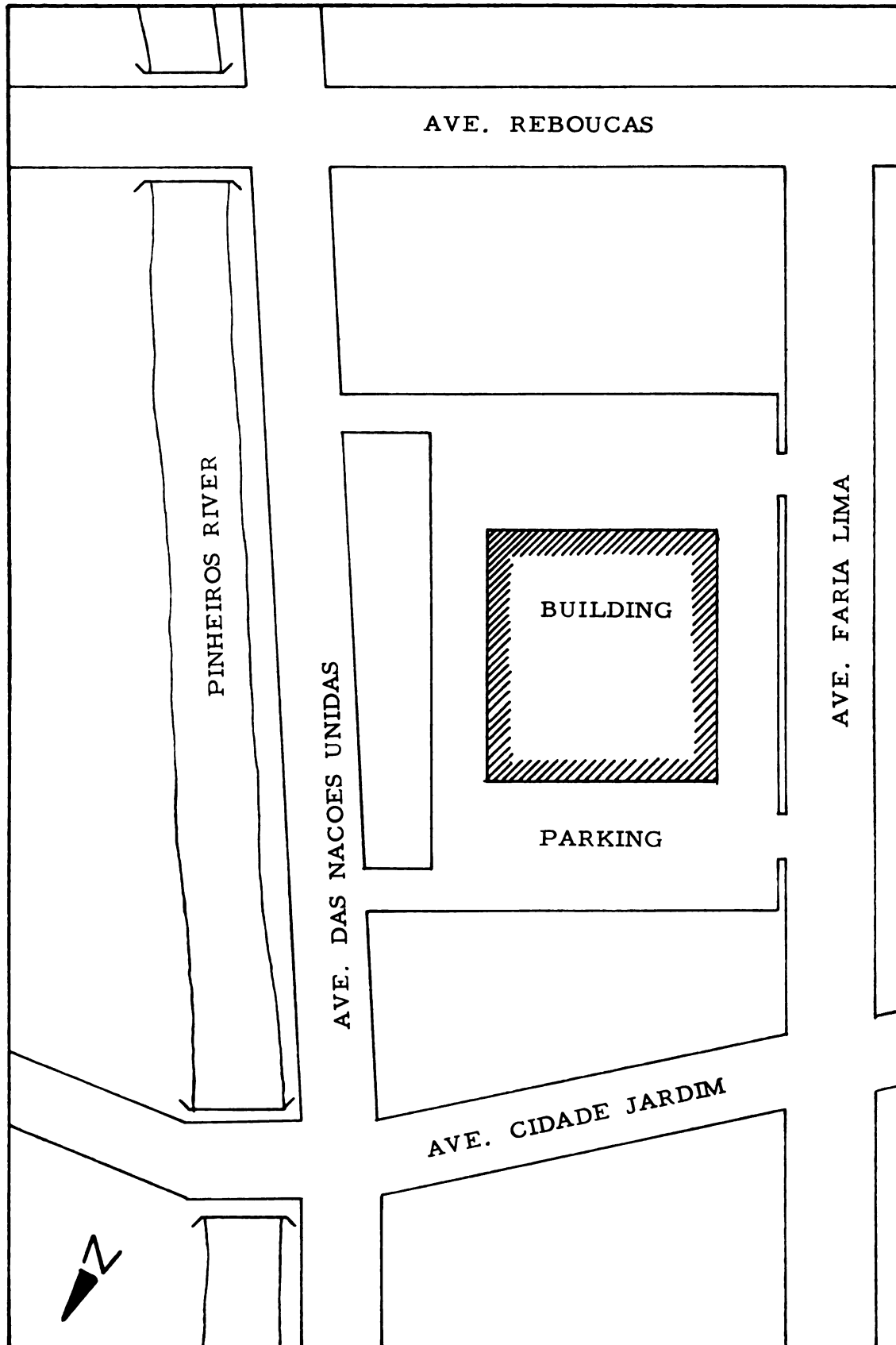


FIGURE 12  
IGUATEMI SHOPPING CENTER

The center was built during 1964 and 1965 on a vacant lot of about 4 acres. It has a floor space of 17.350 m<sup>2</sup> (approximately 187,000 square feet), but since the center is built on three levels, the 17.350 m<sup>2</sup> second level and 5.565 m<sup>2</sup> third level make the gross building area about 40.265 m<sup>2</sup> (approximately 247,000 square feet). This design feature was an overdimensioning of building area relative to lot size, as will be demonstrated later in this chapter.

Iguatemi represents a real advance in terms of retailing facilities construction and architectural conceptualization in the Brazilian environment. However, from a retailing and marketing perspective, this institution falls short; such sound techniques as a balanced store mix and plans for complete one-stop shopping facilities were not applied. As will be discussed later, the leasable area was allocated to an excessive number of small tenants whose orientation is toward specialty merchandising; this makes the center a high margin-low volume shopping place. Due to the initial lack of marketing orientation, the center must be conceived of as only a successful real estate operation.

Despite these limitations, Iguatemi has survived and has become a prime retail location in S. Paulo. The success of the center, which operates at lower efficiency levels than similar U. S. institutions, and which might be more adequate if ideal retailing concepts had been

applied, is explained by several factors. First, there is excellent market opportunity in the surrounding areas; second, traffic congestion in the area's competing commercial strips has increased; third, a new peripheral freeway on the south side of the city has increased its drawing power (lower isocrones); and fourth, expansion of automobile ownership has increased consumer mobility.

This center is totally leased to private storekeepers under an agreement of fixed plus variable rent (percentage of sales volume) quite similar to its U.S. counterparts; administration and management of the premises are under the control of a management company which belongs to the original developer, who also owned the construction firm. In 1964 the center's promoter conceived an ingenious mode of financing, land acquisition, and construction. Instead of relying upon large investors, banks, or finance companies, capital was generated from "participation quotas," which gave investors "the right to participate in the center lease revenues." This scheme was unique and well-suited to the Brazilian money market; it was efficient in drawing financial resources from small investors and also allowed planning flexibility to promoters and developers. The plan assumed that the administration of Iguatemi would be handled by a real estate management firm which, after deducting its operational expenses from the total revenue, would distribute the excess profit among the investors.

The great majority of investors are dissatisfied with their earnings, which are far below any other investment alternative. This failure precludes the use of such a financing plan, which otherwise could prove workable in future ventures of this kind.

Iguatemi Shopping Center:  
Operational Descriptors

Shopping centers may be analyzed in terms of their operational characteristics from three perspectives: physical facilities' parameters; trade area descriptors; and customer shopping behavior.

The first perspective enables the analyst to evaluate the center's architectural design and features and the degree of compatibility with its retailing objectives. These may be expressed by a proper blending of store mix, internal traffic flows, and parking availability. The second gives insights about the impact of the center upon its surroundings; the analyst must delineate the boundaries of the center's trade area and furnish information to assess market penetration and drawing power parameters. The third perspective generates estimators regarding patronage motivation, use of the center premises, frequency of visits, car ownership, customer income and expenditures at the center stores, and so forth.





The following evaluation of Iguatemi will use this format and will be performed in accordance with the taxonomic guidelines established for these purposes in chapter 2. The primary data used were drawn from continuous field research conducted at the center from 1966 to 1971 under the author's guidance and supervision.<sup>2</sup>

According to our taxonomic criteria, Iguatemi's physical facilities parameters are detailed in Table 11. There are several characteristic features worth mentioning. First, the excessive building area exceeds its site dimensions by about 7.000 m<sup>2</sup>. Second, large space is allocated to internal malls which waste about 25 percent of the center's building area. Third, parking area is too small relative to total building and rental space; the center has a parking ratio of 0.55 m<sup>2</sup> and a parking index of 1.9, which are extremely low in relation to its trade area, location, and customer car ownership. Such figures seem to indicate that retailing techniques were not followed during the planning stage (see Figure 11).

Another peculiar feature of this center is that since its opening in 1965 it has increased the tenant number by subdividing each vacant store into smaller units; such a policy, according to information collected in 1971, has resulted in 119 small units as opposed to the original 79 units.<sup>3</sup> From a strategic retailing point of view, it is difficult to see how the increase in the number of stores

TABLE 11.--Shopping Center Iguatemi Physical Facilities.

| Descriptor                                   | Characteristic or Parameter   |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
|--|---|---------------|-----------|---------------|------------------------|-----|---|---------------------|-----|---|---------|-----|----|---------------------------|----|----|--------------|-----|----|---------------------|------------|-----------|-------|------|-----|
| 1. Design                                    | Hub type multiple floors - 3 floors   |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 2. Site Area                                 | 33,500 m <sup>2</sup> or 8.4 acres  |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 3. Ground Floor Area                         | 17,350 m <sup>2</sup> = 186,754 sq. ft.   |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 4. Total Building Area                       | Ground floor = 17,350 m <sup>2</sup> = 186,754 sq. ft.<br>First floor = 17,350 m <sup>2</sup> = 186,754 sq. ft.<br>Second floor = <u>5,565 m<sup>2</sup> = 59,901 sq. ft.</u><br>Total Building Area = 40,265 m <sup>2</sup> = 433,408 sq. ft.  |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 5. Internal Malls (non-selling areas)        | 10,770 m <sup>2</sup> = 115,927 sq. ft.   |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 6. Total Rental Area                         | 29,495 m <sup>2</sup> = 317,481 sq. ft. ( (4)-(5) )   |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 7. Parking Area                              | 16,150 m <sup>2</sup> = 173,837 sq. ft. ( (2)-(3) )   |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 8. Circulation Area                          | 1,615 m <sup>2</sup> = 17,384 sq. ft. (10% of (7))  |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 9. Net Parking Area                          | 14,535 m <sup>2</sup> = 156,453 sq. ft. ( (7)-(8) )   |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 10. Parking Space Size                       | 25 m <sup>2</sup> = 269 sq. ft.   |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 11. Parking Capacity                         | 581 cars spaces ( (9) : (10) )  |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 12. Parking Ratio                            | 0.55 m <sup>2</sup> = 0.55 sq. ft. ( (8)-(9) )  |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 13. Parking Index                            | 1.9 parking spaces per 100 m of rental area. Given by the following relation: 1.9 parking per 1000 sq. ft.<br><br>$\frac{\text{Number of car spaces}}{100 \text{ m}^2/\text{Rental Area}} = \frac{(11) \quad 29,495 \text{ m}^2}{100 \text{ m}^2} \left( \frac{317,481 \text{ sq. ft.}}{1000 \text{ sq. ft.}} \right)$  |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 14. Store Mix (as % of area per major class) | <table><tr><th>Class</th><th>% of Area</th><th>No. of Stores</th></tr><tr><td>Food and Food Services</td><td>10%</td><td>9</td></tr><tr><td>General Merchandise</td><td>31%</td><td>2</td></tr><tr><td>Apparel</td><td>16%</td><td>42</td></tr><tr><td>Furniture/Home Appliances</td><td>4%</td><td>10</td></tr><tr><td>Other Retail</td><td>14%</td><td>41</td></tr><tr><td>Services Facilities</td><td><u>25%</u></td><td><u>15</u></td></tr><tr><td>TOTAL</td><td>100%</td><td>119</td></tr></table> | Class         | % of Area | No. of Stores | Food and Food Services | 10% | 9 | General Merchandise | 31% | 2 | Apparel | 16% | 42 | Furniture/Home Appliances | 4% | 10 | Other Retail | 14% | 41 | Services Facilities | <u>25%</u> | <u>15</u> | TOTAL | 100% | 119 |
| Class  | % of Area   | No. of Stores |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| Food and Food Services                       | 10%   | 9             |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| General Merchandise                          | 31%   | 2             |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| Apparel                                      | 16%   | 42            |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| Furniture/Home Appliances                    | 4%  | 10            |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| Other Retail                                 | 14%   | 41            |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| Services Facilities                          | <u>25%</u>  | <u>15</u>     |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| TOTAL  | 100%  | 119           |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |
| 15. Leading Tenant                           | Major Department Store  |               |           |               |                        |     |   |                     |     |   |         |     |    |                           |    |    |              |     |    |                     |            |           |       |      |     |

could bring real benefits to the center's customers or enable economies of scale. The opposite would seem to be true.

Iguatemi's trade area descriptors were evaluated and analyzed several times by means of customers interviews; such field research generated sound information regarding trade area size, driving time, and driving distance. Although each collection was limited to 200 interviews, the information provides a basic picture of competition and customer preference within the market area's geographic limits. Table 12 summarizes these data.

The table indicates empirical evidence of some theoretical concepts discussed in chapter 2. For example, the percentage of customers coming from the secondary trade area increased during the 1966-1969 period, whereas the percentage of customers from the tertiary trade area remained almost constant. This fact may be explained by improved traffic conditions in the area and because the center's convenience became an extra attraction to pull customers from farther districts. It also is interesting that driving time inquiries indicate that 85 percent of patrons will not drive more than 30 minutes to reach the center. This indicator is consistent with the driving distance percentages analyzed in Table 3. In other words, 85 percent of the center's customers come from areas not farther away than 4 km. Another point to be noted is

TABLE 12.--Shopping Center Iguatemi Trade Area Descriptors.

| Descriptor                                      | Characteristic or Parameter        |                       |                        |                       |
|---|------------------------------------|-----------------------|------------------------|-----------------------|
| 1. Location in relation to the urban area.      | Suburban - District No. 26         |                       |                        |                       |
| 2. Location in relation to the road network.    | Commercial Avenue - Faria Lima Av. |                       |                        |                       |
| 3. Drawing Power                                | <u>1966 Survey</u>                 |                       | <u>1969 Survey</u>     |                       |
| 3.1 Driving Distances                           | <u>District No.</u>                | <u>% of Customers</u> | <u>District No.</u>    | <u>% of Customers</u> |
| a. Primary Trade Area                           | 26                                 | 28.3%                 | 14                     | 24%                   |
| (up to 2 km radius)                             | 27                                 | 14.2%                 | 27                     | 12%                   |
|   | 14                                 | 6.6%                  | 15                     | 8%                    |
|   | 15                                 | 4.3%                  | 26                     | 2%                    |
|   |                                    | 53.4%                 |                        | 46%                   |
| b. Secondary Trade Area (from 2 to 4 km radius) | 38                                 | 8.6%                  | 13                     | 12%                   |
|   | 6                                  | 6.6%                  | 6                      | 10%                   |
|   | 13                                 | 4.3%                  | 29                     | 6%                    |
|   | 39                                 | 4.3%                  | 12                     | 6%                    |
|   | 29                                 | 4.3%                  | 39                     | 6%                    |
|   |                                    | 28.1%                 |                        | 40%                   |
| c. Tertiary Trade Area (from 4 to 6 km radius)  | from 10 districts                  | 18.5%                 | 25                     | 10%                   |
|   |                                    |                       | 1                      | 2%                    |
|   |                                    |                       | Others                 | 2%                    |
|   |                                    |                       |                        | 14%                   |
| 3.2 Driving Time                                | <u>Driving Time</u>                |                       | <u>% of Customers</u>  |                       |
|   | less than 15 minutes               |                       | 58%                    |                       |
|   | 13 to 30 minutes                   |                       | 27%                    |                       |
|   | 30 to 60 minutes                   |                       | 8%                     |                       |
|   | more than 60 minutes               |                       | 7                      |                       |
| 4. Population in the Trade Area                 | <u>District Number</u>             |                       | <u>% of Population</u> |                       |
| 4.1 Primary Trade Area                          | 14, 15, 26, 27 and 28              | =                     | 266,228                |                       |
| Secondary Trade Area                            | 6, 13, 29, 38 and 39               | =                     | 538,088                |                       |
| Tertiary Trade Area                             | 1, 4, 5, 12, 16, 24 and 40         | =                     | 450,139                |                       |
|   | TOTAL                              | =                     | 1,254,455              |                       |

the high population coefficient within the trade areas: 804,000 individuals live within a 4 km. radius.

We now will focus attention on the demographics of the trade area and on findings related to customers' shopping behavior. These data were collected by the same procedures described previously, and analysis of the results indicates patterns of shopping behavior consistent with the theoretical constructs examined in chapter 2.

In Table 13, Iguatemi is examined in relation to its customers' motivation and demographics, and some interesting observations can be made. It is clear that one of the basic reasons customers prefer the center is its location (33 percent) and the fact that it offers off-street parking (16 percent). Since no other retailers in the area have the same or similar facilities, the convenience of location and parking are obvious differential advantages. Table 12 also indicates that Iguatemi is competing with the nearest commercial street, where traffic congestion and scarce parking make shopping with a car time consuming; 85 percent of the people interviewed declared they owned at least one car.

Another point may be mentioned in relation to the center: out of 119 stores, 5 were preferred by 63 percent of the interviewees. This seems to indicate that the excessive number of small stores tends to reduce the

TABLE 13.--Shopping Center Iguatemi Customer Shopping Behavior and Demographics.

| Question                                      | Motives and Attitudes Towards the SCI   |           | F%                    |
|---|---|-----------|-----------------------|
| 1. Reason to patronize the SCI                | Location  |           | 33%                   |
|   | Product Mix   |           | 26%                   |
|   | Parking   |           | 16%                   |
|   | Retail Services   |           | 12%                   |
|   | Product Quality   |           | 9%                    |
|   | Other   |           | 4%                    |
| 2. Preferred stores in the SCI                | Department Store (1 store)  |           | 25%                   |
|   | Variety Store (1 store)   |           | 14%                   |
|   | Supermarket (1 store)   |           | 12%                   |
|   | Shoe Store (2 stores)   |           | 12%                   |
|   | Other (114 stores)  |           | 37%                   |
| 3. Other places in which like to shop         | Downtown  |           | 15%                   |
|   | Nearest commercial strip (Rua Augusta)  |           | 42%                   |
|   | Other   |           | 20%                   |
|   | No preference   |           | 23%                   |
| 4. Mode of Transportation to reach the Center | Car   |           | 86%                   |
|   | Taxi  |           | 6%                    |
|   | Bus   |           | 5%                    |
|   | Walk-in   |           | 3%                    |
| 5. Car Ownership per customer household       | no cars   |           | 15%                   |
|   | 1 car   |           | 43%                   |
|   | 2 cars  |           | 30%                   |
|   | more than 2 cars  |           | 12%                   |
|   | Accumulative percentage at least 1 car  |           | 85%                   |
| 6. Household Year Income (US\$)               | <u>Income</u>   | <u>F%</u> | <u>Class Midpoint</u> |
|   | 0- 3,600  | 2         | \$ 1,800              |
|   | 7,600- 7,200  | 6         | 5,400                 |
|   | 7,200-10,800  | 20        | 9,000                 |
|   | 10,800-14,400   | 72        | 12,600                |
|   |   |           | <u>907,000</u>        |
|   |   |           | 1,123,200 ÷ 100       |
|   |   |           | = \$11,232            |
| n = 200                                       | <u>Obs:</u> The household year income \$11,232 reflects the average household year income of the center customers and cannot be interpreted as averages for the districts in the center trade area. |           |                       |

eventual advantages which could be derived from large scale operation. In fact, most of the stores in the center have an image of high price, high margin, and low volume retailing. This fact leads to a final comment; the relatively high average yearly household income (US\$11,232), as determined by the interviews, means that the center is serving a high-income segment of the trade area population.

Lapa Shopping Center:  
Overall Characteristics

Lapa Shopping Center is located in district 40 (Lapa); its construction began in 1966 and it opened two years later. This is the second planned and controlled shopping center in the GSPMA, and its promotion and construction were handled by the same real estate firm which developed Iguatemi. Site selection for this center was based on the results of market area analysis provided by hired consultants. At their recommendation, Lapa Shopping Center was located in the core of Lapa district's commercial zone, adjacent to the major retailing street.

According to the classification criteria developed in chapter 2, this center falls into a secondary shopping area locational category and it also may be classified as an intersection type (see Figure 14). This locational pattern is the principal constraint to the center's drawing power and market share. On one side, the center faces



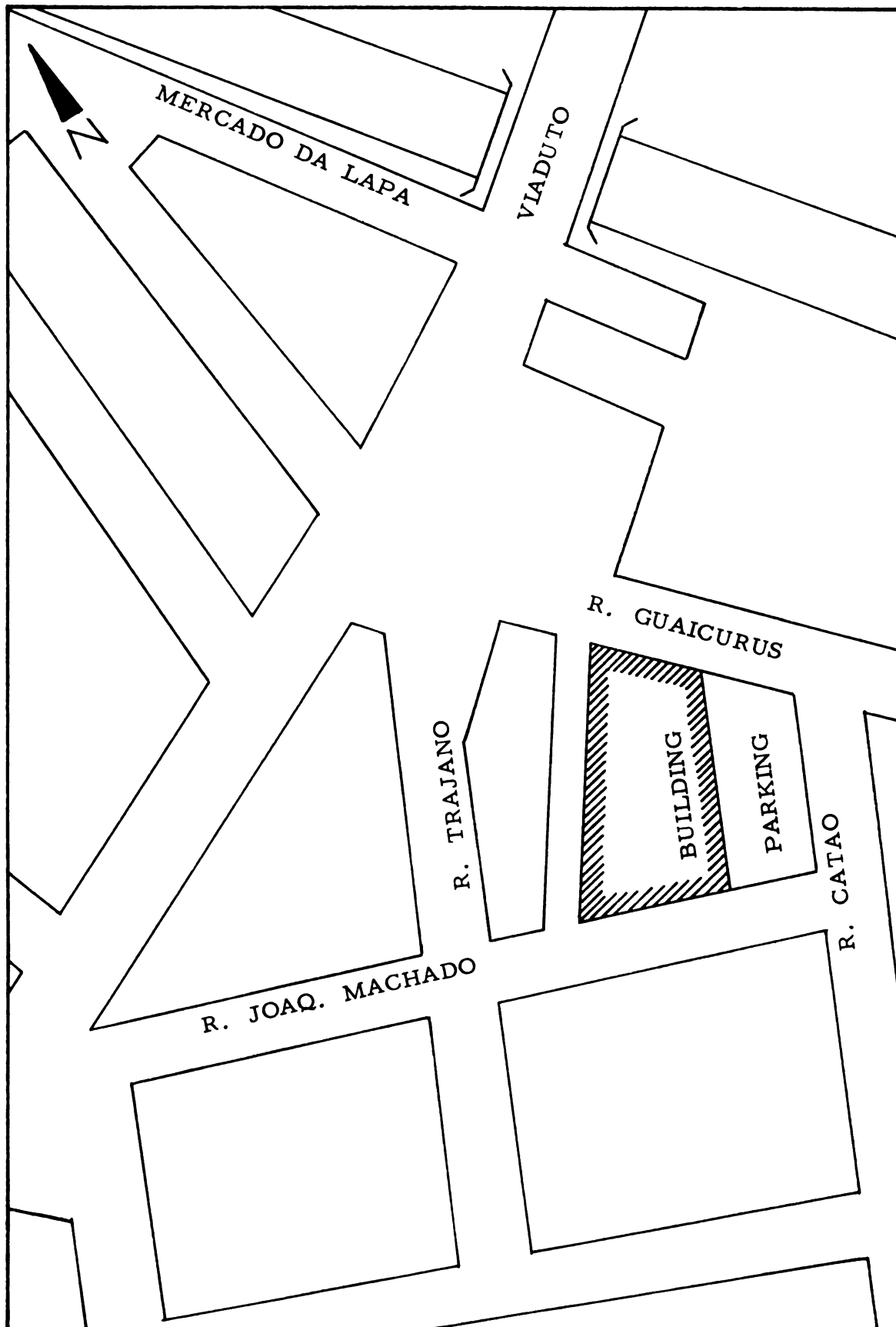


FIGURE 13  
LAPA SHOPPING CENTER

competition from a large cluster of stores within walking distance; on the other side, heavy traffic conditions make car owners avoid the area. In addition, Lapa Shopping Center's accessibility to an adjacent freeway is limited by railroad tracks.

The center's major physical dimensions may be described by the following parameters:

|                       |   |
|-----------------------|---|
| <u>Land Lot area</u>  | 7000 m <sup>2</sup> (1.75 acres)              |
| <u>Total Building</u> |   |
| Ground Floor          | 6900 m <sup>2</sup> (74,270 sq. ft.)          |
| 1st. floor            | 1950 m <sup>2</sup> (20,990 sq. ft.)          |
| 2nd floor             | 3900 m <sup>2</sup> (41,979 sq. ft.)          |
| 3rd floor             | 1950 m <sup>2</sup> (20,990 sq. ft.)          |
| 4th floor             | 3900 m <sup>2</sup> (41,979 sq. ft.)          |
| 5th floor             | 1950 m <sup>2</sup> (20,990 sq. ft.)          |
| total                 | <hr/> 20,550 m <sup>2</sup> (221,228 sq. ft.) |

The second and fourth floors are built with additional wings at different levels, which explains the larger areas.

These parameters demonstrated that an overdimensional building design was used in relation to lot size. Since the center's design was oriented toward saving space, a limited 3.000 m<sup>2</sup> (33,300 square feet) parking lot was placed on part of the ground floor roof. The architectural characteristics of this center (see Figure 13), due to its multiple levels and because of the substantial proportion of area allocated to internal traffic needs, falls short

of meeting its retailing objectives; internal circulation is made difficult because of multiple staircases, and these also reduce the area allocated to retailing purposes.

Lapa was designed to accommodate 118 tenants plus an office area to be occupied by the management company; however, due to its poor design and because of its location, the rate of occupancy has been around 40 percent of the total leasable area since the center's opening in 1968. Furthermore, store turnover has been constant, which means that some storekeepers have gone bankrupt or have had to close their operations.

The reasons for the limited success of this center are quite clear to the marketing analyst. First, in addition to its inaccessibility, the center does not offer sufficient parking facilities; if these were available, the inconvenience of the high friction access partially would be reduced in the minds of prospective customers. Second, the center merely replicated the existing store mix in the vicinity. Since most of these stores belong to independent and long-established storekeepers, they have a definite advantage in price and operational margins, and, in general, they have a differential advantage. Third, the area's transient traffic is composed overwhelmingly of lower-income commuters who use the bus stop and adjacent railroad station; obviously, these customers prefer to shop in the old-fashioned but lower priced business district.

It is interesting that this second shopping center experience cannot be considered an improvement over the techniques used for Iguatemi. By and large, Lapa is another real estate venture that has failed to meet its objective as an innovative component of S. Paulo's retailing system. Lapa was financed similarly to Iguatemi, and it also has not fulfilled expectations as a profitable investment.

It is difficult to forecast improvements in the performance of this center since its main limitations stem from noncontrollable variables. Among these are trade area shopping behavior and low purchasing power; over-utilization of land space without the possibility of parking area expansion due to the lack of buffer areas; and extreme competition in the vicinity.

#### Lapa Shopping Center: Operational Descriptors

Lapa Shopping Center's problems will become quite evident when operational measurements are applied to the data collected. The format for evaluation will follow the same framework used previously, and it draws upon information collected in the same manner. Table 14 shows the results of the analysis and permits some interesting observations to be made concerning Lapa's design features.

Compared with U.S. standards, and even in comparison with Iguatemi, the errors in planning and

TABLE 14.--Shopping Center Lapa. Operational Descriptors.

| Descriptor                | Measurement or Parameter   |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
|---------------------------|--|------------------------|----------------------|----------------------|------------------------|-------|---|---------------------|------|---|---------|-------|---|---------------------------|---|---|--------------|------|---|----------|-------|---|-------|-------|--|
| 1. Design                 | Hub shape multiple level - six floors  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 2. Land Site Area         | 7,000 m <sup>2</sup> (75,347 sq. ft.)  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 3. Ground Floor Area      | 6,900 m <sup>2</sup> (74,271 sq. ft.)  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 4. Total Building Area    | 20,550 m <sup>2</sup> (221, 198 sq. ft.)   |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 5. Internal Malls         | 4,100 m <sup>2</sup> (44,132 sq. ft.)  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 6. Total Rent Area        | 14,500 m <sup>2</sup> (156,077 sq. ft.)  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
|                           | Obs.: To calculate total rent area were deducted from the total building area the following spaces: (1) Internal malls 4,100 m <sup>2</sup> and (2) 1950 m <sup>2</sup> occupied by the center management and machinery house. Thus total Rent Area = 20,550 m <sup>2</sup> - (4,100 m <sup>2</sup> + 1950) = 14,500 m <sup>2</sup> .  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 7. Parking Area           | 3,000 m <sup>2</sup> (32,292 sq. ft.)  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 8. Circulation Area       | 360 m <sup>2</sup> (3,875 sq. ft.) ( (7) x 0.12)   |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 9. Net Parking Area       | 2,640 m <sup>2</sup> (28,417 sq. ft.) ( (9) - (8) )  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 10. Parking Space Size    | 25 m <sup>2</sup> (29.9 sq. ft.)   |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 11. Parking Capacity      | 106 cars ( (9) (10) )  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 12. Parking Ratio         | 0.146 ( (7) (4) )  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 13. Parking Index         | 0.690  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
|                           | Obs.: Calculated by the formula  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
|                           | $P.I. = \frac{Pc}{\frac{TRA}{100}}$  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
|                           | where: PI = parking index<br>Pc = parking capacity (11)<br>TRA = Total Rent Area   |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 14. Store Mix             | <table><tr><th><u>Retailing Class</u></th><th><u>% of the Area</u></th><th><u>No. of Stores</u></th></tr><tr><td>Food and Food Services</td><td>10.83</td><td>4</td></tr><tr><td>General Merchandise</td><td>2.01</td><td>2</td></tr><tr><td>Apparel</td><td>10.53</td><td>7</td></tr><tr><td>Furniture/Home Appliances</td><td>-</td><td>-</td></tr><tr><td>Other Retail</td><td>4.32</td><td>7</td></tr><tr><td>Services</td><td>12.47</td><td>7</td></tr><tr><td>TOTAL</td><td>39.71</td><td></td></tr></table> | <u>Retailing Class</u> | <u>% of the Area</u> | <u>No. of Stores</u> | Food and Food Services | 10.83 | 4 | General Merchandise | 2.01 | 2 | Apparel | 10.53 | 7 | Furniture/Home Appliances | - | - | Other Retail | 4.32 | 7 | Services | 12.47 | 7 | TOTAL | 39.71 |  |
| <u>Retailing Class</u>    | <u>% of the Area</u>   | <u>No. of Stores</u>   |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| Food and Food Services    | 10.83  | 4                      |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| General Merchandise       | 2.01   | 2                      |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| Apparel                   | 10.53  | 7                      |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| Furniture/Home Appliances | -  | -                      |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| Other Retail              | 4.32   | 7                      |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| Services                  | 12.47  | 7                      |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| TOTAL                     | 39.71  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
|                           | Obs.: These figures reflect the % of total renting areas as September, 1971.   |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |
| 15. Leading Tenant        | Supermarket  |                        |                      |                      |                        |       |   |                     |      |   |         |       |   |                           |   |   |              |      |   |          |       |   |       |       |  |

design of this center are obvious. The parking ratio of 0.146 and the parking index of 0.690 are good examples of these flaws; the effects were perceived during the survey conducted last year, at which time the parking area was so congested that the management enforced a one-hour parking limit. Considering that almost 60 percent of the center's area was vacant at that time, it is apparent that if the center reaches higher tenancy its parking facilities will become completely obsolete.

Due to its inherent shortcomings, Lapa was not capable, even two years after its opening of achieving a balanced or at least a complete store mix (see Table 14). There are no furniture and home appliance retailers, and there is no department store.

Table 15 also describes the relationship between the center and its trade area. Drawing power did not change substantially from 1969 to 1971; assuming an increase in the area's population, the center did not increase its attraction or appeal for surrounding residents. Even if the primary trade population had remained constant two years after its opening, Lapa should have increased its market penetration. Furthermore, there has been no substantial increase in the number of customers as measured by driving time interval; a large percentage of customers (53-56 percent) spend less than fifteen minutes to reach the center. This condition may be explained by the center's

TABLE 15.--Shopping Center Lapa Trade Area Descriptors.

| Descriptor                                   | Measurement/Parameters                 |                          |                      |                       |
|--|--|--------------------------|----------------------|-----------------------|
| 1. Location in relation to the urban area.   | Suburban - District No. 40. Lapa       |                          |                      |                       |
| 2. Location in relation to the road network. | Business District Block - Catao Street |                          |                      |                       |
| 3. Drawing Power                             | <u>1969 Survey</u>                     |                          | <u>1971 Survey</u>   |                       |
| 3.1 Driving Distance                         | <u>District No.</u>                    | <u>% of Customers</u>    | <u>District No.</u>  | <u>% of Customers</u> |
| a. Primary Trade Area (0-2 Km radius)        | 40                                     | 46%                      | 40                   | 46%                   |
| b. Secondary Trade Area (2-4 Km radius)      | 46, 29, 27, 28                         | 19%                      | 46, 27, 29           | 22%                   |
| c. Tertiary Trade Area (4 Km-6 cm radius)    | 1, 17 and others                       | 35%                      | 45, 44, 1 and others | 32%                   |
|  |  | <u>100%</u>              |                      | <u>100%</u>           |
| 3.2 Driving Time                             | <u>Driving Time</u>                    | <u>% of Customers</u>    |                      |                       |
|  |  | <u>1969</u>              | <u>1971</u>          |                       |
|  | 0-15 minutes                           | 53%                      | 56%                  |                       |
|  | 15-30 minutes                          | 24%                      | 28%                  |                       |
|  | 30-60 minutes                          | 15%                      | 16%                  |                       |
|  | more than 60 minutes                   | 8%                       | 0%                   |                       |
|  |  | <u>100%</u>              | <u>100%</u>          |                       |
| 4. <u>Population in the Trade Area</u>       | <u>District No. 1</u>                  | <u>Population (1970)</u> |                      |                       |
|  | 40                                     | 123,634                  |                      |                       |
| a. Primary Trade Area (0-2 Km radius)        |  |                          |                      |                       |
| b. Secondary Trade Area (2-4 Km. radius)     | 27                                     | 44,457                   |                      |                       |
|  | 28                                     | 34,046                   |                      |                       |
|  | 29                                     | 101,396                  |                      |                       |
|  | 30                                     | 30,035                   |                      |                       |
| c. Tertiary Trade Area (4-6 Km. radius)      | 31                                     | 99,405                   |                      |                       |
|  | 39                                     | 176,731                  |                      |                       |
|  | 72                                     | 30,924                   |                      |                       |
|  | 47                                     | <u>100,031</u>           |                      |                       |
|  | TOTAL                                  | 1,091,295                |                      |                       |

low degree of accessibility and by its poor retailing features. Thus, despite its large building area, Lapa cannot be considered a true regional shopping center; its deficiencies in planning and design reduce it to the operational and trade area dimensions of a community center. In conclusion, difficult access means that this center, which is located in a trade area with more than one million individuals, operates below full capacity.

Customers interviewed on the premises disclosed that only 10 percent patronize Lapa because of its location, and only 9 percent indicated parking as the main reason for shopping there. Bearing in mind that parking and locational conveniences are the basic factors which legitimize the existence of planned and controlled centers, it seems that this center has not fulfilled these conditions (see Table 16). The store preferred by the interviewees was a supermarket. Recalling the conceptual framework discussed in chapter 2, this phenomenon is very incompatible with a center of this size, in which the leading tenant should be a department store. The fact that the center does not offer a strong competitive threshold may be deduced from the high percentage of customers (65 percent) who shop alternatively in the neighboring business district and downtown (CBD) (see Table 16).



TABLE 16.--Shopping Center Lapa. Shopping Behavior and Demographics.

| Question   | Motives and Attitudes Towards the SCL  | % Customers                                      |
|--|--|--|
| 1. Reason to patronize the SCL                             | Location<br>Product Mix<br>Parking<br>Retail Services<br>Product Quality/Price<br>Others     | 10%<br>23%<br>9%<br>27%<br>24%<br>7%             |
| 2. Preferred Stores at the SCL                             | Supermarket (Pao de Acucar)<br>Fabrics and Textiles<br>Discount Shop<br>Shoe Store<br>Others | 50%<br>19%<br>17%<br>6%<br>8%                    |
| 3. Other places in which like to shop                      | Lapa's Business District<br>Downtown (CBD)<br>Augusta Street<br>SCI<br>Others                | 39%<br>26%<br>9%<br>3%<br>23%                    |
| 4. Mode of transportation used to reach the center         | Car<br>Taxi (let-out)<br>Public (Bus and/or train)<br>Walk-in                                | 40%<br>14%<br>22%<br>24%                         |
|  | <u>Obs.:</u> The same question proposed in the 1969 Survey provided the following answers:   |  |
|  | Car<br>Taxi<br>Public<br>Walk-in   | 29%<br>3%<br>42%<br>26%                          |
| 5. Car Ownership per customer household.                   | <u>Car per Household</u>   | <u>1969 Survey %</u> <u>1971 Survey %</u>        |
|  | no cars  | 42%      52%                                     |
|  | 1 car  | 41%      38%                                     |
|  | 2 cars   | 15%      8%                                      |
|  | more than 2 cars   | 2%      2%                                       |
| 6. Customer Household Year Income (US\$)<br>(C\$5 = US\$1) | <u>Income</u> <u>F%</u>  | <u>Class Midpoint</u> <u>F% x Class Midpoint</u> |
|  | 0- 3,600      20%  | 1,800      20x1,800 = 36,000                     |
|  | 3,600- 7,200      25%  | 5,400      25x5,400 = 135,000                    |
|  | 7,200-10,800      51%  | 9,000      51x9,000 = 459,000                    |
|  | 10,800-14,400      4%  | 12,600      4x12,600 = 50,400                    |
|  |  | Average Income      = <u>680,400</u>             |
|  |  | 100  |
|  |  | Average Income = US\$ 6,804                      |

Car ownership and annual household income in Lapa's trade area is significantly lower than in Iguatemi's, but, despite the lower rate of car ownership, the center's parking lot is insufficient and does not perform its function, namely, to offer convenient off-street parking for patrons. The income figures shown in Table 16 are substantially higher than the averages determined to elaborate the income indexes (see chapter 5). Such differences may be explained by the fact that this center is serving only a small proportion of the region's population.

The above analysis, which reflects conclusions derived from Lapa's operational descriptors, leads the analyst to affirm that this center does not represent advancement or progress in terms of the application of the retailing techniques. It is marred by a lack of sound locational planning, improper use of land space, and misapplied architectural design concepts. As a result, four years after its opening, 60 percent of Lapa's leasable area still is vacant, and there is constant tenant turnover.

### Center 3

#### Overall Characteristics

The third experiment in shopping centers is Center 3, located in district 15 (Cerqueira Cezar) at the intersection of a major street of office buildings and the most elegant commercial street in S. Paulo. This site may be classified as a secondary shopping area relative to the

surrounding streets; its location is typically an interception site. The south entrance is on Paulista Avenue, which, during the 1920s, was the best residential district in the city. Today, due to the construction of large office and bank buildings, this avenue is an important business and financial street. This center initially was financed by private resources, but, due to a lack of funds, it was transformed into a corporation. Construction was begun in 1969 and took about five years to complete.

The center's design is rather peculiar; the building has 24 floors, but only the first four are allocated to the center as such, the remainder being used as offices by a major state-owned public utility company. For the purposes of the present analysis, the building complex will be evaluated only in relation to the areas pertaining to the shopping center's operations and its underground parking lot. According to this criterion, the center uses all of its land lot, which is approximately  $7,000 \text{ m}^2$  (75,344 square feet).

Since the building was constructed in multiple levels with different areas, it is convenient to break down its physical measurements:

Selling Area

|              |   |                      |                   |
|--------------|---|----------------------|-------------------|
| Ground floor | = | $5.144 \text{ m}^2$  | ( 55,370 sq. ft.) |
| 1st floor    | = | $6.980 \text{ m}^2$  | ( 75,132 sq. ft.) |
| 2nd floor    | = | $282 \text{ m}^2$    | ( 3,035 sq. ft.)  |
| 3rd floor    | = | $4.131 \text{ m}^2$  | ( 40,466 sq. ft.) |
| Total        |   | $16.537 \text{ m}^2$ | (178,000 sq. ft.) |

Parking Area

|                               |   |                      |                  |
|-------------------------------|---|----------------------|------------------|
| 1st level underground parking | = | 5.128 m <sup>2</sup> | (55,197 sq. ft.) |
| 2nd level underground parking | = | 3.846 m <sup>2</sup> | (41,398 sq. ft.) |
|                               |   | 8.974 m <sup>2</sup> | (96,600 sq. ft.) |

The center's physical dimensions, the location of the major tenants within the center, and its underground parking facilities make it rather difficult to classify this structure as a "real" shopping center. Despite the good taste of its internal malls, which are made of expensive materials, Center 3 lacks competitive power in relation to the unplanned store cluster along the nearby well-known Augusta Street (see Figure 14). Difficult access to the center, due to the location of its parking area and constant traffic congestion in the vicinity, means that the center suffers greatly from the Augusta Street cluster, which operates as a powerful interceptor (see chapter 2). Another major shortcoming of the center is its store mix. As will be verified later, there is an excessive amount of space allotted to service institutions and to several apparel stores. Both factors precluded the center from operating as a high hierarchy central place.

This center, similar to others in the GSPMA, is leased to a private management firm under a rental agreement which includes a fixed minimum rent plus a variable amount based on sales percentages. In order to avoid inflationary effects, the management added a clause in its

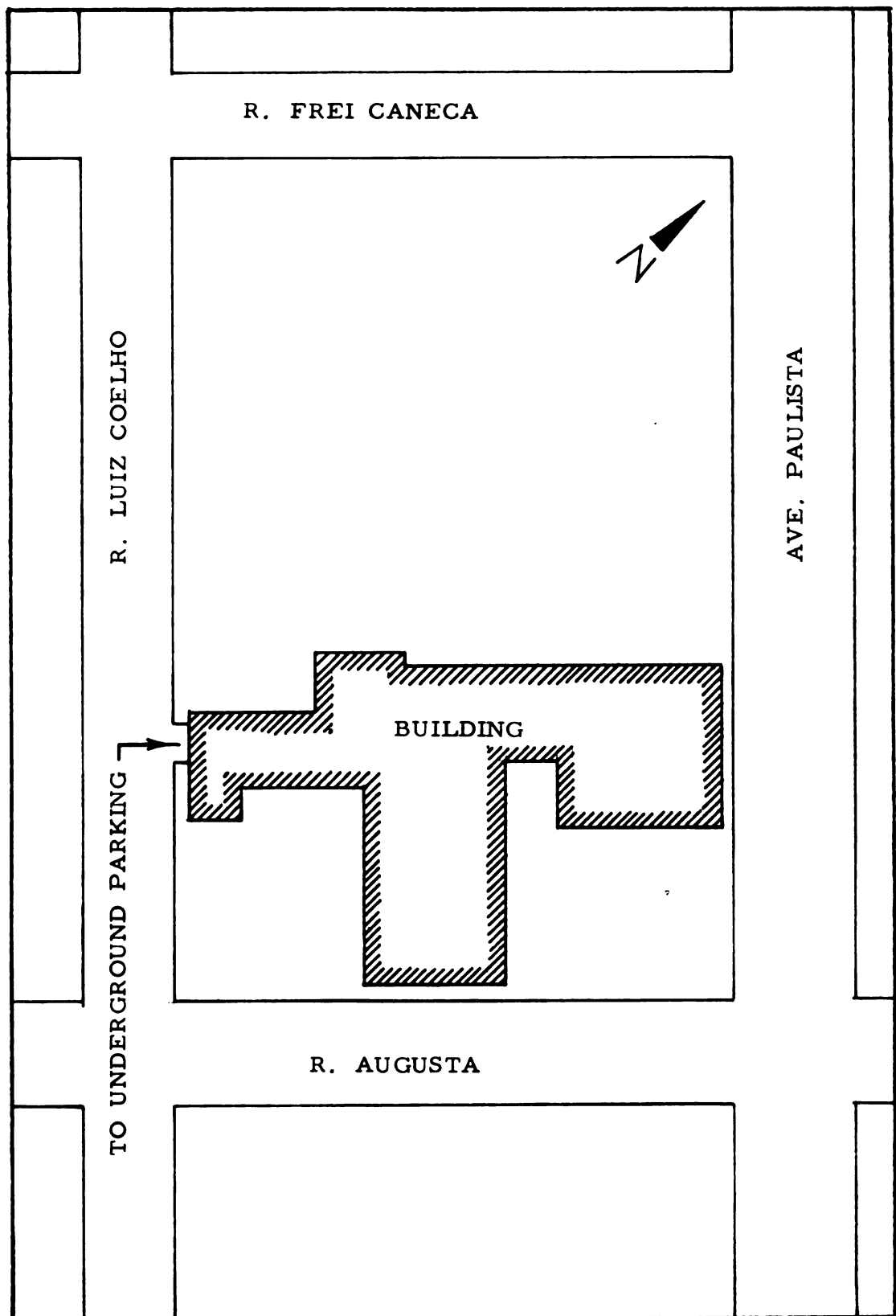


FIGURE 14  
CENTER 3

rental agreements: the fixed rent segment also is adjusted when the minimum wage increases; thus fixed rent is calculated as a multiple of current minimum wages. Such a scheme is expressed in the following formula:  $\text{Rent} = K + Sp$ , where  $K$  = number of minimum wages, and  $Sp$  = percentage of sales.

Although Center 3's tenants at the time of the field survey were far from satisfied with the center's customer traffic and sales volume, almost all space was rented.

#### Center 3: Operational Descriptors

As previously mentioned Center 3 was examined in terms of its physical dimensions, in relation to its trade area, and concerning its customer shopping pattern. Due to its recent opening, the center was surveyed only once, which limits the analysis of eventual changes that might occur at different stages of a center's operational periods.

From Table 17 it may be perceived that the center's physical dimensions relationships are extremely difficult to analyze within standard parameters because of its multiple levels and irregular land lot measurements. However, evaluation of relevant parameters such as parking ratio and index, store mix, and total rental area is still possible.

TABLE 17.--SC-3, Physical Facilities Descriptors.

| Descriptor             | Measurement or Parameter  |                      |                  |
|------------------------|---|----------------------|------------------|
| 1. Design              | Hub - open malls - multiple level underground parking                   |                      |                  |
| 2. Site                | Irregular shape, central block, three exits - 1.75 acres (see Figure ). |                      |                  |
| 3. Ground Flor Area    | 5.144 m <sup>2</sup> (55,370 sq. ft.)                                   |                      |                  |
| 4. Total Building Area | 16,537 m <sup>2</sup> (178,000 sq. ft.)                                 |                      |                  |
| 5. Internal Malls      | 3,142 m <sup>2</sup> (32,820 sq. ft.)                                   |                      |                  |
| 6. Total Rent Area     | 13,395 m <sup>2</sup> (144,182 sq. ft.) ( (6) - (5) )                   |                      |                  |
| 7. Parking Area        | 8,974 m <sup>2</sup> (96,600 sq. ft.)                                   |                      |                  |
| 8. Circulation         | 1,076 m <sup>2</sup> (11,581 sq. ft.) (0.12 x (7) )                     |                      |                  |
| 9. Net Parking Area    | 7,898 m <sup>2</sup> (85,013 sq. ft.) ( (7) - (8) )                     |                      |                  |
| 10. Parking Space Size | 22.6 (243 sq. ft.)  |                      |                  |
| 11. Parking Capacity   | 350 cars ( (9) ÷ (10) )   |                      |                  |
| 12. Parking Ratio      | 0.54 ( (7) ÷ (4) )  |                      |                  |
| 13. Parking Index      | 2.0 (10 ÷ (4)/100)  |                      |                  |
| 14. Store Mix          | <u>Retail Class</u>   | <u>No. of Stores</u> | <u>% of Area</u> |
|                        | Food  | 7                    | 24.2             |
|                        | General Merchandise   | 1                    | 4.3              |
|                        | Apparell  | 15                   | 7.5              |
|                        | Furniture/Home  |                      |                  |
|                        | Appliances  | 4                    | 8.0              |
|                        | Other Retail  | 11                   | 6.3              |
|                        | Services  | <u>4</u>             | <u>49.7</u>      |
|                        | TOTAL   | 42                   | 100 %            |
| 15. Leading Tenant     | Junior Department Store   |                      |                  |

The parking ratio and parking index parameters are extremely low by U. S. standards or even in relation to the centers examined previously. The parking ratio (0.54) may be explained by the center's architectural features and by the high price of land in the area. The parking index, on the other hand, reflects poor planning, since a center with a large percentage of space rented to institutions selling shopping goods and services requires a much higher index. Another point which must be raised is that the center rents almost 50 percent of its area to service institutions such as banks and theaters; 15 of 42 stores, about 36 percent of the tenants, use only 7.5 percent of the area, which is occupied mostly by apparel stores selling high-cost, high-margin merchandise. These factors indicate that mass retailing and proper tenant mix concepts, which are essential characteristics of planned and controlled shopping centers, were not observed in the center's planning.

Trade area descriptors are analyzed in Table 18 according to the format used previously. This table indicates that customer patronage does not follow standard patterns; a larger percentage of customers are drawn from secondary and tertiary areas--the center does not draw the majority of its customers from the vicinity. There are various explanations, but the most important one is the nature of the surrounding area, which is typically a business district.



TABLE 18.--SC-3, Trade Area Descriptors.

| Descriptors                                 | Measurement and Parameters                      |  |
|---|---|--|
| 1. Location in relation to the urban area   | Central - District No. 15 (Cerqueira Cezar)     |  |
| 2. Location in relation to the road network | Business and Financial Avenue - Paulista Avenue |  |
| 3. Drawing Power                            | <u>1971 Survey</u>                              |  |
| 3.1 Driving Distance                        | <u>District No.</u>                             | <u>% of Customers</u>                                      |
| a. Primary Trade Area (0.2 Km)              | 15, 26<br>14, 5, 6                              | 26%  |
| b. Secondary Trade Area (2-4 Km)            | 17, 29, 4<br>12, 39, 13                         | 53%  |
| c. Tertiary Trade Area (4-6 Km)             | 40, 38, 25,<br>16                               | 21%  |
|   |   | <u>100%</u>  |
| 3.2 Driving Time                            | <u>Time Interval</u>                            |  |
|   | 0-15 minutes                                    | 24%  |
|   | 15-30 minutes                                   | 50%  |
|   | 30-60 minutes                                   | 24%  |
|   | more than 60 minutes                            | 2%   |
|   | N = 200   | <u>100%</u>  |
| 4. Population in the Trade Area             | <u>District No.</u>                             | <u>Population</u>  |
| a. Primary Trade Area                       | No. 1<br>5<br>6<br>14<br>15<br>26               | 8,628<br>62,988<br>65,659<br>92,697<br>44,770<br>50,258    |
| b. Secondary Trade Area                     | No. 4<br>12<br>13<br>27<br>29<br>39             | 62,931<br>49,840<br>82,644<br>44,457<br>101,396<br>176,731 |
| c. Tertiary Trade Area                      | No. 16<br>25<br>38<br>40                        | 69,647<br>72,471<br>111,620<br>123,634                     |
|   | TOTAL   | 1,220,409  |

A second reason is the serious competition from the adjacent commercial street, which, despite its crowded traffic conditions, offers a much better store mix and is closer to the residential areas.

The evaluation of Center 3 was concluded by an analysis of its customers' shopping behavior and demographics; these data are shown in Table 19 and allow for several interesting observations. Location and parking, for example, rated very low among the patrons' motives, whereas product quality ranked highest. Customer preference, as indicated by the table, is very unusual for shopping centers, since the great percentage of customers said they preferred the gift shops. Due to its location near the adjacent commercial strip (Augusta Street and Iguatemi), the center was an alternative shopping place for 52 percent of its customers. Evidently, this center also has operational limitations. Despite the large income of its patrons, it falls short of being a complete and integrated shopping facility, and thus loses an excellent market opportunity.

#### Final Remarks

The preceding analysis reveals that the shopping center industry in the GSPMA is in its initial stage; furthermore, the evaluation of the three centers' operational characteristics, physical design, and trade area relationships has demonstrated that this type of retailing operation

TABLE 19.--SC-3. Shopping Behavior and Demographics.

| Question  | Motives and Attitudes<br>Toward the SC-3 |     | % of Customers              |
|---|--|-----|-----------------------------|
| 1. Reason to patronize<br>SC-3                        | Location                                 |     | 6%                          |
|   | Store mix                                |     | 20%                         |
|   | Parking                                  |     | 13%                         |
|   | Retail Services                          |     | 16%                         |
|   | Prices                                   |     | 14%                         |
|   | Product Quality                          |     | 31%                         |
| 2. Preferred stores at<br>SC-3                        | Apparell store                           |     | 31%                         |
|   | Supermarket                              |     | 11%                         |
|   | Bank                                     |     | 11%                         |
|   | Gifts Store                              |     | 22%                         |
|   | Restaurant                               |     | 14%                         |
|   | Others                                   |     | 21%                         |
| 3. Other places in which<br>like to shop              | Augusta Street                           |     | 52%                         |
|   | Shopping Center Iguatemi                 |     | 40%                         |
|   | Downtown                                 |     | 4%                          |
|   | Others                                   |     | 4%                          |
| 4. Mode of transportation used<br>to reach the center | Car                                      |     | 56%                         |
|   | Taxi                                     |     | 10%                         |
|   | Bus                                      |     | 6%                          |
|   | Walk-in                                  |     | 28%                         |
| 5. Car ownership per<br>customer household            | <u>Demographics</u>                      |     |                             |
|   | <u>No. of cars per household</u>         |     |                             |
|   | No cars                                  |     | 26%                         |
|   | 1 car                                    |     | 42%                         |
|   | 2 cars                                   |     | 22%                         |
|   | 3 or more cars                           |     | 10%                         |
| 6. Household year income<br>(US\$)                    | Income Class                             | F%  | Class<br>Mid-Point          |
|   |  |     | Ex-Class Mid-Point<br>÷ 100 |
|   | 0- 3,600                                 | 2%  | 1,800                       |
|   | 3,600- 7,200                             | 8%  | 5,400                       |
|   | 7,200-10,800                             | 44% | 9,000                       |
|   | 10,800-14,400                            | 46% | 12,600                      |
|   |  |     | 2 x 1,800 = 3,600           |
|   |  |     | 8 x 5,400 = 43,200          |
|   |  |     | 44 x 9,000 = 396,000        |
|   |  |     | 46 x 12,600 = 579,600       |
|   |  |     | 1,022,400                   |

Average Household Income per Year =  $\frac{1,022,400}{100} = \$10,224$

is still less advanced when compared with U.S. patterns. The overall constraints analyzed are related to the lack of marketing orientation, since the greatest emphasis has been placed on the real estate dimensions of these institutions, and also because basic concepts of retailing location and physical design were not followed.

In the case of Iguatemi Shopping Center, the location is excellent but the excessive use of land space makes the center's parking inconvenient, an undesirable characteristic in a true shopping center. The locations of the other two centers were poorly selected, since both are in congested traffic areas with very limited parking space and suffer from intensive competition from adjacent unplanned retailing clusters. In the specific case of Lapa, the low income level found in its northern trade area also limits its success. In all three centers, there is an excessive number of small stores, which generally operate with a high-price, high-margin product mix. In one way or another, this reduces the centers' total sales volume and limits the patronage only to higher income segments of the population. These conditions should be avoided, since the land cost in the area and the large investment in specialized types of stores require large volumes of operation.

### Relationships with Theoretical Concepts

It is interesting to observe that many of the theoretical concepts examined in chapter 2 are useful to explain the low level of performance of the three centers analysed above.

The location of Lapa and Center 3, for instance, did not use normative concepts such as those mentioned by Nelson, Paul Smith and Applebaum, these centers were located in areas of difficult access and with large retailing competition.

The layout and the physical design of the three centers did not follow the concepts of proper store mix and one stop shopping suggested by Cox, Meissner and Bliss. These centers do not provide sufficient parking, thus reducing the convenience factor. In two centers (Lapa and Center 3), the concept "total system" expounded by Paul E. Smith, was not followed since these centers are not adjusted to their environment, do not have a complete store mix and do not draw business adequately from the vicinity.

The analysis of trade areas descriptors and shopping behavior at Lapa and Center 3, indicated that these centers are not operating consistently with the concepts of drawing power and spatial shopping behavior examined by

Lalonde and Huff; this phenomenon occurs because basic concepts such as driving time and driving distance were not taken into consideration for planning purposes.

Furthermore, it is important to mention that a better knowledge of urban system theories would have been useful to the centers' planners and developers in GSPMA.

Concepts such as Ullman-Harris, multiple nuclei theory, if applied in the planning stages would have given a better perspective to the planners relative to the cities internal characteristics and trends. In this case, shopping centers would have been located in points of greater intracity accessibility.

Hurd's, Hoyt's concepts, if applied during the planning stages of these centers, would have contributed a good understanding of the city, its present structure and future growth. The use of Hurd's and Hoyt's constructs in the location and planning stages would have given insights relative to the shopping centers' areas and their housing-trade patterns,

The concepts of Blumenfeld and Hoover, if applied, would have given a proper perspective in relation to the ecological role of these centers within their trade areas. Since Lapa, and Center 3, are not contributing to reduce traffic congestion and to improve convenience shopping in their regions, it is possible to affirm that these institutions are not fulfilling their objectives.

A basic conclusion can be derived from the analysis above. Despite the outstanding growth of the GSPMA, its shopping center industry is still incipient, since its planners and developers failed to recognize in their first experiences the characteristics of this large metropolitan area and the impact of the automobile upon its urban structure.

In conclusion, the shopping center industry in the GSPMA needs a better orientation concerning locational criteria, proper balance between the land site and the size of the center's physical facilities, and the planning of adequate store mix. The next chapter will be focused on the development of normative criteria related to this subject.

FOOTNOTES: CHAPTER IV

<sup>1</sup>The author is indebted to Professor Jacob J. Gelman of the School of Business Administration of S. Paulo, who provided extensive information based on research made under his guidance. Professor Gelman's research followed the same framework applied by this author in previous publications.

<sup>2</sup>The information concerning 1966, 1968, and 1969 were gathered from field research done during seminars on retailing systems management at the School of Business Administration of S. Paulo under the author's guidance. The 1971 data were collected by the author and his associates in field studies conducted for the special purposes of the present dissertation during September and October of 1971. The author is indebted to many of his students for their cheerful responses to his research inquiries.

<sup>3</sup>Lima, Shopping Centers, p. 121.



## CHAPTER V

### CITY OF S. PAULO MARKET OPPORTUNITY

#### Introductory Concepts

The characteristics of the institutions which compose retailing systems stress the necessary conditions for compatibility between the descriptors of a trade area and the operational dimensions of its retailing institutions. In other words, the effort performed by retailers must be in proper balance with the market opportunity existing within the trade area's boundaries. According to Wroe Alderson, opportunity can be described in terms of demand for a specific product or service, or as related to a set of products and services in demand within a certain geographic area.<sup>1</sup> Effort may be defined as the demand obtaining and demand servicing activities performed by retailing institutions to match market opportunity. The demand or market opportunity of retailing institutions may be conceived over space. Specifically in this dissertation, the demand or market opportunity will be analyzed within the limits of trade areas defined in terms of the city of S. Paulo's 48 districts, which are the smallest legal micro-areas within the city's major limits.

In order to evaluate market opportunity, it is necessary to point out its principal dimensions or characteristics. Rom Markin believes market opportunity may be assessed by the following dimensions:<sup>2</sup> (1) market population; (2) market population purchasing power; and (3) market propensity or willingness to spend and consume. In our case, only secondary data were available concerning population and income; there were no information or published statistics regarding consumption and spending patterns per district. Thus, two other descriptors were selected to evaluate the market opportunity in each district: the first is the spatial dimension of each district, which may provide indications about income distribution over space, and the second is the number of automobiles in each district.

These two seem to be a rational choice because they are linked with density factors and mobility patterns within districts. The size of each district will be translated into an index capable of evaluating market opportunity per district, automobile ownership will indicate, in relative terms, that one district has more mobility than another, and that the trade area within the district requires a certain amount of parking space for retailing purposes. Therefore, market opportunity in S. Paulo's 48 districts will be evaluated by the following major descriptors: (1) population per district; (2) income per district; (3) car ownership per district; and (4) district area ( $\text{Km}^2$ ).

Each of the first three will be transformed into indexes which will be aggregated into a composite index, then modified in relation to the area index (4); this measurement will indicate market opportunity relative to the area of each district.

In order to accomplish this task, it is necessary to discuss the physical and geographic characteristics of S. Paulo's urban districts.

### City of S. Paulo: Urban Area

#### Geographic Characteristics

According to information provided by Instituto Brasileiro de Geografia e Estatística, the City of S. Paulo's urban area is 842 km<sup>2</sup>; it is composed of 48 urban districts of irregular shape ranging from 1.12km<sup>2</sup> (Se) to 151.10 km<sup>2</sup> (Socorro).<sup>3</sup> These are clustered around the District of Se, the center of historical settlement and the area in which the CBD is located. The other 47 districts have developed in expanding circles around this central point and represent an interesting pattern; their area increases in proportion to their distances from the CBD (see Figure 15).

Figure 15 shows the urban districts' location and contours, the major external limits of the city, and adjacent counties and rural areas. Districts have been numbered from 1 to 48 starting from the CBD and following

a clockwise spiral. Adjacent counties are indicated by letters and adjacent rural areas by the letters R.A.<sup>4</sup> The major external limits of the city are depicted by heavy lines, whereas districts and adjacent counties are represented by fine lines.

Despite their irregular shape and the large difference among their demographics, the districts have to be selected as a standard geographic unit (SGU) because census information and other official statistics are available by districts.<sup>5</sup> Such a constraint may be avoided by establishing relative indexes of market opportunity for each district.

#### Districts Demographics

The evaluation of the relative market opportunity in each district began with data from the 1970 Brazilian census and from S. Paulo Metropolitan Subway Research which were analyzed and classified by districts. Table 20 shows figures on the population distribution per district, the area of each district given in km<sup>2</sup>, and the population density in each district (inhabitants/km<sup>2</sup>).

Three peculiar characteristics of the SE districts area can be observed. First, there are large population coefficients in the external districts of the city; second, districts clustered around the original CBD are irregular in shape; and third, outlying districts are larger in area than central ones.

The wide range in population density may be explained by differences in housing patterns among the districts as well as by the large variance within districts. Districts 4, 5, and 16, which have population densities of about 25,000 per km<sup>2</sup>, are known for their small area and high concentration of apartment buildings. Districts 33 and 43, despite their large population coefficients, have a density of about 4,000 inhabitants per km<sup>2</sup> because of their large areas (see Table 20).

TABLE 20.--City of Sao Paulo--District Demographics 1970 Census.

| District Name | District No. | Population | Area (km <sup>2</sup> ) | Density Pop./km <sup>2</sup> |
|---------------|--------------|------------|-------------------------|------------------------------|
| SE            | 1            | 8,628      | 1.12                    | 7,703                        |
| BRAS          | 2            | 56,027     | 3.98                    | 14,077                       |
| MOOCA         | 3            | 35,668     | 3.99                    | 8,939                        |
| LIBERDADE     | 4            | 62,931     | 2.70                    | 23,307                       |
| BELA VISTA    | 5            | 62,988     | 2.30                    | 27,386                       |
| CONSOLACAO    | 6            | 65,679     | 3.84                    | 17,103                       |
| ST. EFIGENIA  | 7            | 43,755     | 2.50                    | 17,502                       |
| PARI          | 8            | 30,945     | 2.75                    | 11,252                       |
| BELENZINHO    | 9            | 52,776     | 5.50                    | 9,595                        |
| ALTO DA MOOCA | 10           | 137,288    | 9.83                    | 13,895                       |
| CAMBUCI       | 11           | 49,544     | 3.72                    | 13,318                       |
| ACLIMACAO     | 12           | 49,840     | 2.81                    | 17,336                       |
| V. MARIANA    | 13           | 82,644     | 9.36                    | 8,829                        |
| J. PAULISTA   | 14           | 92,697     | 7.49                    | 12,376                       |
| CERQ. CEZAR   | 15           | 44,770     | 2.16                    | 20,726                       |
| ST. CECILIA   | 16           | 69,647     | 2.71                    | 25,700                       |
| BOM RETIRO    | 17           | 25,853     | 2.48                    | 10,424                       |
| V. GUILHERME  | 18           | 74,450     | 7.23                    | 10,297                       |
| V. MARIA      | 19           | 116,916    | 11.19                   | 10,448                       |
| TATUAPE       | 20           | 255,515    | 25.82                   | 9,896                        |

TABLE 20.--Continued.

| District<br>Name | District<br>No. | Population | Area<br>(km <sup>2</sup> ) | Density<br>Pop./km <sup>2</sup> |
|------------------|-----------------|------------|----------------------------|---------------------------------|
| V. FORMOSA       | 21              | 96,822     | 8.72                       | 11,103                          |
| V. PRUDENTE      | 22              | 359,597    | 31.76                      | 11,322                          |
| IPIRANGA         | 23              | 173,355    | 16.35                      | 10,602                          |
| SAUDE            | 24              | 236,555    | 21.48                      | 11,012                          |
| INDIANOPOLIS     | 25              | 72,471     | 7.84                       | 9,243                           |
| J. AMERICA       | 26              | 50,258     | 5.64                       | 8,910                           |
| PINHEIROS        | 27              | 44,457     | 5.01                       | 8,873                           |
| V. MADALENA      | 28              | 34,046     | 4.81                       | 7,078                           |
| PERDIZES         | 29              | 101,396    | 8.80                       | 11,522                          |
| BARRA FUNDA      | 30              | 30,035     | 2.53                       | 12,780                          |
| CASAVARDE        | 31              | 99,405     | 7.11                       | 13,981                          |
| SANTANA          | 32              | 200,490    | 34.07                      | 5,884                           |
| TUCURUVI         | 33              | 360,504    | 89.07                      | 4,047                           |
| CANGAIBA         | 34              | 60,265     | 9.11                       | 66,615                          |
| PENHA            | 35              | 138,206    | 11.60                      | 12,274                          |
| V. MATILDE       | 36              | 151,475    | 21.17                      | 11,914                          |
| JABAQUARA        | 37              | 197,169    | 21.96                      | 8,978                           |
| IBIRAPUERA       | 38              | 111,620    | 28.25                      | 3,951                           |
| BUTANTAN         | 39              | 176,731    | 53.86                      | 3,281                           |
| LAPA             | 40              | 123,634    | 21.84                      | 5,660                           |
| LIMAO            | 41              | 70,232     | 6.15                       | 11,419                          |
| COCHOEIRINHA     | 42              | 30,924     | 2.55                       | 12,127                          |
| ST. AMARO        | 43              | 378,911    | 94.56                      | 4,007                           |
| V. JAGUARA       | 44              | 52,140     | 8.46                       | 6,163                           |
| PIRITUBA         | 45              | 86,401     | 23.39                      | 3,693                           |
| N.S. do O        | 46              | 141,863    | 11.85                      | 11,971                          |
| BRASILANDIA      | 47              | 100,031    | 19.48                      | 5,135                           |
| SOCORRO          | 48              | 166,494    | 151.10                     | 1,101                           |
| TOTAL            |                 | 5,264,048  | 842.00 (A)                 |                                 |

NOTE: City's urbanized Area = (A) 842.00

(Source - IBEGE - S. Paulo  
Aspectos do Municipio de S. Paulo 1968)

Population Index

Population is a key element in evaluating market opportunity. A useful way to compare population coefficients and their distribution among districts in a major market area is in terms of indexes. These provide a clear indication of relative differences among districts. To convert absolute population figures into indexes requires a simple process:

$$\text{Pop. \%} = \frac{D_p \times 100}{T_p} \quad (5.1)$$

where: Pop. % = population percentage per district;

$D_p$  = district population; and

$T_p$  = total population;

then

$$P_i = \frac{\text{Pop. \%} \times 100}{\frac{100}{N}} = N \times \text{Pop. \%}, \quad (5.2)$$

where:  $P_i$  = population index, and

$N$  = number of districts.

Table 20 was prepared using equations (5.1) and (5.2), and the following figures were used to generate the indexes:

$T_p = 5.264.048$  = S. Paulo's total population in 1970;

$N = 48$  = number of districts; and

Pop.% = percentage of population distribution per district.

An analysis of Table 21 indicates that there is a wide range of variation in the population indexes. The smallest is 7.20 for District 1 (Se), and the largest is 345.12 for District 43 (St. Amaro).

An interesting observation is that 16 districts (33 percent) have population indexes higher than 100, which means populations of more than 109,751. Another relevant point is that the farther the districts are from the core of the city, the higher the population index. Such a characteristic is uncommon of U.S. cities and seems to be the result of working class and lower-income people living in out-lying areas where the land value is low. This large concentration of population in the peripheral zones, combined with adequate decentralization of retailing, explains the need for movement toward the CBD, which was mentioned in chapter 3.

TABLE 21.--Population Index S. Paulo--48 Districts 1970  
Population--Distribution--%--Index.

| District<br>No. | Population | % of<br>Population | Index  |
|-----------------|------------|--------------------|--------|
| 1               | 8,268      | 0.15               | 7.20   |
| 2               | 56,027     | 1.06               | 50.88  |
| 3               | 35,668     | 0.67               | 32.16  |
| 4               | 62,931     | 1.19               | 57.12  |
| 5               | 62,988     | 1.19               | 57.12  |
| 6               | 65,679     | 1.24               | 59.52  |
| 7               | 43,755     | 0.83               | 39.84  |
| 8               | 30,945     | 0.58               | 27.84  |
| 9               | 52,776     | 1.00               | 48.00  |
| 10              | 137,280    | 2.60               | 124.80 |



TABLE 21.--Continued.

| District<br>No. | Population | % of<br>Population | Index  |
|-----------------|------------|--------------------|--------|
| 11              | 49,544     | 0.94               | 45.12  |
| 12              | 49,840     | 0.94               | 45.12  |
| 13              | 82,644     | 1.56               | 74.88  |
| 14              | 92,697     | 1.75               | 84.00  |
| 15              | 44,770     | 0.84               | 40.32  |
| 16              | 69,647     | 1.32               | 63.36  |
| 17              | 25,853     | 0.49               | 23.52  |
| 18              | 74,450     | 1.41               | 67.68  |
| 19              | 116,916    | 2.21               | 106.08 |
| 20              | 255,515    | 4.85               | 232.80 |
| 21              | 96,822     | 1.83               | 37.84  |
| 22              | 359,597    | 6.82               | 327.36 |
| 23              | 173,355    | 3.29               | 157.92 |
| 24              | 236,555    | 4.49               | 215.52 |
| 25              | 72,471     | 1.37               | 65.76  |
| 26              | 50,258     | 0.95               | 45.60  |
| 27              | 44,457     | 0.84               | 40.32  |
| 28              | 30,046     | 0.57               | 27.36  |
| 29              | 101,396    | 1.92               | 92.16  |
| 30              | 30,035     | 0.57               | 27.36  |
| 31              | 99,405     | 1.88               | 90.24  |
| 32              | 200,490    | 3.80               | 182.40 |
| 33              | 360,504    | 6.84               | 328.32 |
| 34              | 60,265     | 1.14               | 54.72  |
| 35              | 138,206    | 2.62               | 125.76 |
| 36              | 151,475    | 2.87               | 137.76 |
| 37              | 197,169    | 3.74               | 179.52 |
| 38              | 111,620    | 2.11               | 101.28 |
| 39              | 176,731    | 3.35               | 160.80 |
| 40              | 123,634    | 2.34               | 112.32 |
| 41              | 70,232     | 1.33               | 63.84  |
| 42              | 30,924     | 0.58               | 27.84  |
| 43              | 378,911    | 7.19               | 345.12 |
| 44              | 52,140     | 0.98               | 47.04  |
| 45              | 86,401     | 1.64               | 78.72  |
| 46              | 141,863    | 2.69               | 129.12 |
| 47              | 100,031    | 1.89               | 90.82  |
| 48              | 166,494    | 3.16               | 151.68 |
| TOTAL           | 5,264,048  | 100.00             |        |

Income Index

Income index determination followed a procedure similar to that for population:

$$\text{If } \text{Inc. \%} = \frac{D_i \times 100}{T_i}, \quad (5.3)$$

where: Inc. % = income percentage distribution per district;

$D_i$  = total district household income per year; and

$T_i$  = total household income per year for all districts;

then

$$I_i = \frac{\text{Inc. \%} \times 100}{\frac{100}{N}} = N \times \text{Inc. \%}, \quad (5.4)$$

where:

$I_i$  = income index, and

$N$  = number of districts.

Table 22 was prepared using equations (5.3) and (5.4), and secondary data from the S. Paulo Metropolitan Subway Research and the Plano Urbanistico Basico (PUB).<sup>6</sup> Since the information available on income was in inappropriate form, some adjustments were made. (1)  $D_i$  (total district household income per year) was defined as the total amount of salaries and other income earned by households within the district during one year, in dollars. (2) The secondary

data available for income determination was derived from the socioeconomic studies conducted by the S. Paulo's Metropolitan Subway Research during 1968. These data were adjusted to 1970, assuming an increase of 1.02 percent in the real income per year (5.6) and then transformed into U.S. dollars at a rate of conversion of CR\$5.00 to US\$1.00 (5.7). These equations are not presented in the text.<sup>7</sup>

Despite the limitations of the data and the necessary adjustments, the information regarding income seems adequate for establishing indexes to assess market opportunity; they will be used to generate relative comparisons of income differences among districts (see Table 22).

Table 22 shows that the largest indexes are found in major outlying districts with high populations and in the higher income districts which, despite their smaller population coefficients, have high household income. Among the districts in the first group are 43 (St. Amaro) and 24 (Saude); in the second group are 14 (J. Paulista) and 15 (C. Cesar). The lowest index is in district 1 (Se), the original CBD, which also has the smallest area and population coefficient.

TABLE 22.--1970--Income Index, S. Paulo 48 Districts, District  
Total Household Index--% Distribution--Income Index.

| District<br>No. | Distribution<br>Total Income | % Distribution<br>of Income | Income<br>Index |
|-----------------|------------------------------|-----------------------------|-----------------|
| 1               | 3,043,200                    | 0.19                        | 9.1             |
| 2               | 19,581,600                   | 1.23                        | 59.0            |
| 3               | 13,569,600                   | 0.85                        | 40.8            |
| 4               | 26,140,800                   | 1.64                        | 78.7            |
| 5               | 35,738,400                   | 2.24                        | 107.5           |
| 6               | 38,030,400                   | 2.38                        | 114.2           |
| 7               | 17,642,400                   | 1.10                        | 52.8            |
| 8               | 10,672,800                   | 0.67                        | 32.1            |
| 9               | 16,567,200                   | 1.04                        | 49.9            |
| 10              | 38,148,000                   | 2.39                        | 114.7           |
| 11              | 22,228,000                   | 1.39                        | 66.7            |
| 12              | 24,657,600                   | 1.54                        | 73.9            |
| 13              | 45,196,800                   | 2.83                        | 135.8           |
| 14              | 56,246,400                   | 3.52                        | 168.9           |
| 15              | 27,981,600                   | 1.75                        | 84.0            |
| 16              | 32,371,200                   | 2.03                        | 97.4            |
| 17              | 9,691,200                    | 0.61                        | 29.2            |
| 18              | 18,540,000                   | 1.16                        | 55.6            |
| 19              | 24,900,000                   | 1.56                        | 74.8            |
| 20              | 59,808,000                   | 3.74                        | 179.5           |
| 21              | 17,505,600                   | 1.10                        | 52.8            |
| 22              | 72,998,400                   | 4.56                        | 218.8           |
| 23              | 50,959,200                   | 3.19                        | 153.1           |
| 24              | 80,296,800                   | 5.03                        | 241.4           |
| 25              | 33,360,000                   | 2.09                        | 100.3           |
| 26              | 40,250,400                   | 2.52                        | 120.9           |
| 27              | 30,130,000                   | 1.89                        | 90.7            |
| 28              | 11,402,000                   | 0.71                        | 34.0            |
| 29              | 55,788,000                   | 3.49                        | 167.5           |
| 30              | 11,244,000                   | 0.70                        | 33.6            |
| 31              | 21,336,000                   | 1.34                        | 64.3            |
| 32              | 57,021,600                   | 3.57                        | 171.3           |
| 33              | 76,730,400                   | 4.80                        | 230.4           |
| 34              | 10,226,400                   | 0.64                        | 30.7            |
| 35              | 31,428,000                   | 1.97                        | 94.5            |

TABLE 22.--Continued.

| District<br>No. | Distribution<br>Total Income | % Distribution<br>of Income | Income<br>Index |
|-----------------|------------------------------|-----------------------------|-----------------|
| 36              | 27,724,800                   | 1.74                        | 83.5            |
| 37              | 51,398,400                   | 3.22                        | 154.5           |
| 38              | 49,653,000                   | 3.11                        | 149.2           |
| 39              | 41,148,000                   | 2.58                        | 123.8           |
| 40              | 53,899,200                   | 3.37                        | 161.7           |
| 41              | 14,100,000                   | 0.88                        | 42.2            |
| 42              | 5,076,000                    | 0.32                        | 15.3            |
| 43              | 102,141,600                  | 6.40                        | 307.2           |
| 44              | 9,888,000                    | 0.62                        | 29.7            |
| 45              | 15,765,600                   | 0.99                        | 47.5            |
| 46              | 26,200,800                   | 1.64                        | 78.7            |
| 47              | 20,750,400                   | 1.30                        | 62.4            |
| 48              | 37,860,000                   | 2.37                        | 113.7           |
| TOTAL           | \$1,597,087,400              | 100.00                      |                 |

#### Car Ownership Index

Car ownership was selected as an index to evaluate market opportunity for two specific reasons. The first is related to the higher consumer mobility in districts with higher car ownership, and the second is because car ownership is a good indicator of disposable income, particularly in countries like Brazil, where this item is very expensive in relation to purchasing power.

The car ownership index was computed by means similar to those used for population and income:

If

$$\text{Car \%} = \frac{C_d \times 100}{C_t}, \quad (5.5)$$

where:

Car % = percentage distribution of car ownership per district;

$C_d$  = total car ownership per district; and

$C_t$  = total car ownership for all districts;

then

$$C_i = \frac{\text{car \%} \times 100}{\frac{100}{N}}, \quad (5.6)$$

where:

$C_i$  = car ownership index, and

$N$  = number of districts.

Table 23 was prepared using equations (5.5) and (5.6) and secondary data derived from the PUB and from the subway reports already mentioned.

Since information on car ownership per district was for 1968, and that for 1970 was available only in total number for the city of S. Paulo, the 1970 figures per district were calculated by prorating the total increase (1968 to 1970) among the districts, taking into consideration the 1968 figures. This process has a serious limitation, since it may overestimate the figures for high-income districts, which already had extensive car ownership in 1968, and may underestimate car ownership

in lower-income districts, since the major segment of used car sales in S. Paulo is in these areas.

Table 23 indicates that the higher indexes of car ownership are in high-income districts (for example, districts 14, 26, and 29), and in middle-class districts (23, 24, and 40) in the peripheral areas of the city. Interestingly enough, car ownership indexes are not high for high-income districts near downtown, a typical example of this being districts 6 and 16 (see Table 23).

TABLE 23.--Car Ownership per District--1970 % Distribution and Index.

| District No. | Car per District | % District | Index |
|--------------|------------------|------------|-------|
| 1            | 522              | 0.11       | 5.2   |
| 2            | 4,304            | 0.87       | 41.7  |
| 3            | 9,808            | 1.99       | 95.5  |
| 4            | 10,279           | 2.09       | 100.3 |
| 5            | 9,447            | 1.92       | 92.1  |
| 6            | 12,394           | 2.52       | 120.9 |
| 7            | 5,035            | 1.02       | 48.9  |
| 8            | 5,533            | 1.12       | 53.7  |
| 9            | 8,790            | 1.79       | 85.9  |
| 10           | 14,950           | 3.04       | 145.9 |
| 11           | 8,349            | 1.70       | 81.6  |
| 12           | 5,072            | 1.03       | 49.4  |
| 13           | 16,917           | 3.44       | 165.1 |
| 14           | 18,953           | 3.85       | 184.8 |
| 15           | 14,524           | 2.95       | 141.6 |
| 16           | 12,744           | 2.59       | 124.3 |
| 17           | 2,786            | 0.56       | 26.8  |
| 18           | 3,772            | 0.76       | 36.4  |
| 19           | 6,916            | 1.40       | 67.2  |
| 20           | 21,861           | 4.44       | 213.1 |
| 21           | 3,465            | 0.70       | 33.6  |
| 22           | 17,923           | 3.64       | 174.7 |
| 23           | 18,988           | 3.86       | 185.2 |
| 24           | 23,687           | 4.81       | 230.8 |
| 25           | 12,057           | 2.45       | 117.6 |

TABLE 23.--Continued.

| District No. | Car per District | % District | Index |
|--------------|------------------|------------|-------|
| 26           | 23,843           | 4.85       | 232.8 |
| 27           | 12,185           | 2.48       | 119.0 |
| 28           | 4,225            | 0.86       | 41.2  |
| 29           | 21,031           | 4.27       | 204.9 |
| 30           | 5,437            | 1.11       | 53.2  |
| 31           | 5,803            | 1.18       | 56.6  |
| 32           | 15,641           | 3.18       | 152.6 |
| 33           | 16,033           | 3.26       | 156.4 |
| 34           | 2,196            | 0.45       | 21.6  |
| 35           | 7,780            | 1.58       | 75.8  |
| 36           | 5,347            | 1.09       | 52.3  |
| 37           | 9,082            | 1.85       | 88.8  |
| 38           | 20,223           | 4.11       | 197.2 |
| 39           | 10,416           | 2.12       | 101.7 |
| 40           | 25,165           | 5.11       | 245.2 |
| 41           | 3,939            | 0.80       | 38.4  |
| 42           | 660              | 0.13       | 6.2   |
| 43           | 18,683           | 3.80       | 182.4 |
| 44           | 2,750            | 0.56       | 26.8  |
| 45           | 3,448            | 0.70       | 33.6  |
| 46           | 5,063            | 1.03       | 49.4  |
| 47           | 1,074            | 0.22       | 10.5  |
| 48           | 2,895            | 0.59       | 28.3  |
| TOTAL        | 492,000          | 100.00     |       |

Composite Index

In order to conclude the market opportunity evaluation, a composite index per district was prepared. The three single indexes discussed previously simply were summed:

$$C_c = P_i + I_i + C_i \quad (5.8)$$



where:

$C_c$  = composite index per district;

$P_i$  = population index per district;

$I$  = income index per district; and

$C_i$  = car ownership index per district.

Because the main objective was to aggregate the three measurements into a single unit, no attempt has been made to weigh any of the three component indexes; each of the indexes had equal value in the calculation.

Using equation (5.8), Table 24 was prepared; it shows the composite index in column 4 and the ranking of the aforementioned index in column 5. The basic reason for preparing the index rankings was to demonstrate, by ordinal measurement, the relative position of each district. It can be seen that the lowest composite index, 21.5 (district 1, Se) was ranked first, whereas index 834.7 (district 44, St. Amaro) was ranked forty-eighth. The ranking also permits arrangement into a subjective but meaningful scheme using interquartile classes; within the context of this dissertation, the 12 lowest indexes were placed in the first quartile, the 12 second lowest in the second quartile, and so forth.<sup>8</sup> As Table 24 indicates, the higher indexes are in peripheral districts which have large population coefficients; districts with medium population coefficients, but with high and medium income indexes, also are placed in the third and fourth quartiles.

TABLE 24.--S. Paulo--48 Districts--Market Opportunity 1970  
Composite Index.

|              | (1)              | (2)          | (3)                  | (4)           | (5)             |
|--------------|------------------|--------------|----------------------|---------------|-----------------|
| District No. | Population Index | Income Index | Car Owner-ship Index | (1), (2), (3) | Rank            |
| 1            | 7.2              | 9.1          | 5.2                  | 21.5          | 1 <sup>o</sup>  |
| 2            | 50.9             | 59.0         | 41.7                 | 151.6         | 11 <sup>o</sup> |
| 3            | 32.2             | 40.8         | 95.5                 | 168.5         | 16 <sup>o</sup> |
| 4            | 47.1             | 78.7         | 100.3                | 236.1         | 21 <sup>o</sup> |
| 5            | 57.1             | 107.5        | 92.1                 | 256.7         | 24 <sup>o</sup> |
| 6            | 59.5             | 114.2        | 120.9                | 294.6         | 31 <sup>o</sup> |
| 7            | 39.8             | 52.8         | 48.9                 | 141.5         | 9 <sup>o</sup>  |
| 8            | 27.8             | 32.1         | 53.7                 | 113.6         | 7 <sup>o</sup>  |
| 9            | 48.0             | 49.9         | 85.9                 | 183.8         | 18 <sup>o</sup> |
| 10           | 124.8            | 114.7        | 145.9                | 385.4         | 34 <sup>o</sup> |
| 11           | 45.1             | 66.7         | 81.6                 | 183.4         | 19 <sup>o</sup> |
| 12           | 45.1             | 73.9         | 49.4                 | 168.4         | 15 <sup>o</sup> |
| 13           | 74.9             | 135.8        | 165.1                | 375.8         | 33 <sup>o</sup> |
| 14           | 84.0             | 168.9        | 194.8                | 437.7         | 38 <sup>o</sup> |
| 15           | 40.3             | 84.0         | 141.6                | 265.9         | 26 <sup>o</sup> |
| 16           | 63.4             | 97.4         | 124.3                | 285.1         | 29 <sup>o</sup> |
| 17           | 23.5             | 29.2         | 26.8                 | 79.5          | 3 <sup>o</sup>  |
| 18           | 67.7             | 55.6         | 36.4                 | 159.7         | 12 <sup>o</sup> |
| 19           | 106.1            | 74.8         | 67.2                 | 248.1         | 22 <sup>o</sup> |
| 20           | 232.8            | 179.5        | 213.1                | 625.4         | 44 <sup>o</sup> |
| 21           | 87.8             | 52.8         | 33.6                 | 174.2         | 17 <sup>o</sup> |
| 22           | 327.4            | 218.8        | 174.7                | 720.9         | 47 <sup>o</sup> |
| 23           | 157.9            | 153.1        | 185.2                | 496.2         | 41 <sup>o</sup> |
| 24           | 215.5            | 241.4        | 230.8                | 687.7         | 45 <sup>o</sup> |
| 25           | 65.8             | 100.3        | 117.6                | 283.7         | 28 <sup>o</sup> |
| 26           | 45.6             | 120.9        | 232.8                | 399.3         | 36 <sup>o</sup> |
| 27           | 40.3             | 90.7         | 119.0                | 250.0         | 23 <sup>o</sup> |
| 28           | 27.4             | 34.0         | 41.2                 | 102.6         | 4 <sup>o</sup>  |
| 29           | 92.2             | 167.5        | 204.9                | 464.6         | 39 <sup>o</sup> |
| 30           | 27.4             | 33.6         | 53.2                 | 114.2         | 8 <sup>o</sup>  |
| 31           | 90.2             | 64.3         | 56.6                 | 211.1         | 20 <sup>o</sup> |
| 32           | 182.4            | 171.3        | 152.6                | 506.3         | 42 <sup>o</sup> |
| 33           | 328.3            | 230.4        | 156.4                | 715.1         | 46 <sup>o</sup> |
| 34           | 54.7             | 30.7         | 21.6                 | 107.0         | 6 <sup>o</sup>  |
| 35           | 125.8            | 94.5         | 75.8                 | 296.1         | 32 <sup>o</sup> |

TABLE 24.--Continued.

| District<br>No. | (1)<br>Population<br>Index | (2)<br>Income<br>Index | (3)<br>Car Owner-<br>ship Index | (4)<br>(1) , (2) , (3) | (5)<br>Rank     |
|-----------------|----------------------------|------------------------|---------------------------------|------------------------|-----------------|
| 36              | 137.8                      | 83.5                   | 52.3                            | 273.6                  | 27 <sup>0</sup> |
| 37              | 179.5                      | 154.5                  | 88.8                            | 422.8                  | 37 <sup>0</sup> |
| 38              | 101.3                      | 149.2                  | 197.2                           | 477.7                  | 40 <sup>0</sup> |
| 39              | 160.8                      | 123.8                  | 101.7                           | 386.3                  | 35 <sup>0</sup> |
| 40              | 112.3                      | 161.7                  | 245.2                           | 519.2                  | 43 <sup>0</sup> |
| 41              | 63.8                       | 42.2                   | 38.4                            | 144.4                  | 10 <sup>0</sup> |
| 42              | 27.8                       | 15.3                   | 6.2                             | 49.3                   | 2 <sup>0</sup>  |
| 43              | 345.1                      | 307.2                  | 182.4                           | 834.7                  | 48 <sup>0</sup> |
| 44              | 47.0                       | 29.7                   | 26.8                            | 103.5                  | 5 <sup>0</sup>  |
| 45              | 78.7                       | 47.5                   | 33.6                            | 159.8                  | 13 <sup>0</sup> |
| 46              | 129.1                      | 78.7                   | 49.4                            | 257.2                  | 25 <sup>0</sup> |
| 47              | 90.7                       | 62.4                   | 10.5                            | 163.6                  | 14 <sup>0</sup> |
| 48              | 151.7                      | 113.7                  | 28.3                            | 293.7                  | 30 <sup>0</sup> |

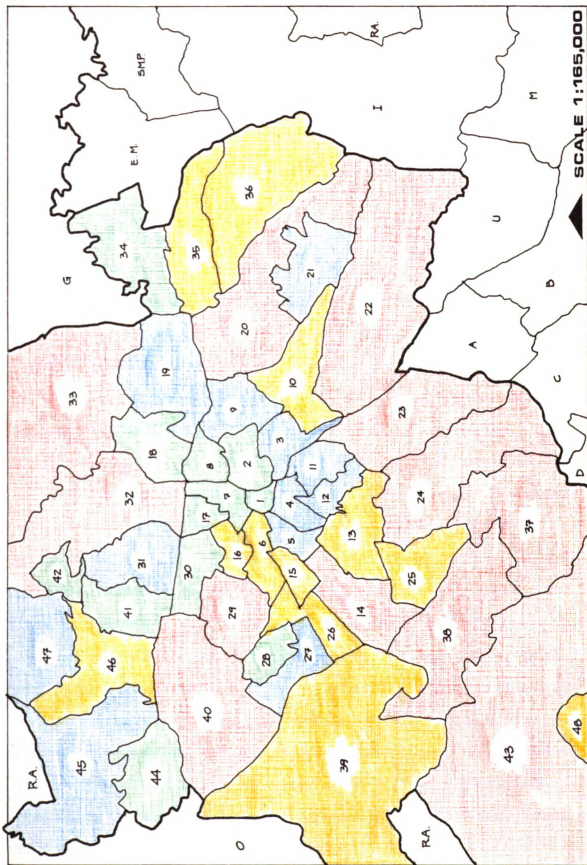
In order to provide a better illustration, figures and rankings from Table 24 have been plotted on the city's district map according to a scheme presented in Table 25.

TABLE 25.--Composite Indexes Quartile Distribution and Map Coding.

| Quartile | Index Rank                         | Lowest | Highest | Range | Map Code |
|----------|------------------------------------|--------|---------|-------|----------|
| 1st.     | 1 <sup>0</sup> to 12 <sup>0</sup>  | 21.5   | 159.7   | 135.2 | P        |
| 2nd.     | 13 <sup>0</sup> to 24 <sup>0</sup> | 159.8  | 256.7   | 96.9  | S        |
| 3rd.     | 25 <sup>0</sup> to 36 <sup>0</sup> | 257.2  | 399.3   | 142.1 | T        |
| 4th.     | 37 <sup>0</sup> to 48 <sup>0</sup> | 422.8  | 834.7   | 411.9 | Q        |

Figure 16. Composite Indexes: Non-Modified

| <u>Quartile</u> | <u>Map Code</u> | <u>Map Color</u> |
|-----------------|-----------------|------------------|
| 1st             | P               | green            |
| 2nd             | S               | blue             |
| 3rd             | T               | yellow           |
| 4th             | Q               | red              |



Since the relative difference among districts already is expressed by the indexes, the rationale for developing the quartiles was not based on the range between the lowest and the highest index, but on ranking of the first fourth lowest indexes, the second fourth lowest indexes, and so on. Consequently, the intraquartile range differs among the quartiles.

The indexes plotting on the map indicate that the lowest indexes generally are in the north section of the city, while the higher indexes are in the wealthy districts in the southwest sector and in the large peripheral districts. A major shortcoming is that the process does not take into consideration that the districts, which represent SGU's (Standard Geographic Units), differ drastically in relation to their areas. A district with a high index may drop sharply in its ranking if a density factor is taken into consideration; in other words, such a high index may have been arrived at because the district had a large area. In most of these situations in the specific case of S. Paulo, the larger districts are located at the periphery and have the largest population coefficients, mostly composed of unskilled and blue-collar workers. On the other hand, many of the high-income districts have small areas and medium population indexes, but the income and car ownership indexes have distorted the ranking. In order to avoid such a bias, a modified composite index must be calculated which takes into account the relative size of each district.

Modified Composite Index

Since one can conceive of market opportunity over space, it is obvious that if two districts have different sizes and, for example, equal composite indexes, the smaller district will have a higher market opportunity density and will rank better in relation to the larger district. Accordingly, for our purposes we will define the modified composite index as the relative measure of market opportunity which is obtained when the composite market opportunity index of each district is divided by the district area index.<sup>9</sup> This definition is expressed in the following formula:

$$C_{im} = \frac{C_c}{A_i} , \quad (5.9)$$

where

$C_{im}$  = modified composite index;

$C_c$  = composite index per district; and

$A_i$  = area index.

Based on equation (5.9) Table 26 shows the modified index in column (4) and the ranking in column (5). For ease of illustration, figures and rankings from Table 26 were plotted on the city's district map.

TABLE 26.--S. Paulo--48 Districts--Market Opportunity  
Modified Composite Index.

| District<br>No. | (1)<br>Composite<br>Index | (2)<br>% Area | (3)<br>Area<br>Index | (4)<br>Modified<br>Index | Rank            |
|-----------------|---------------------------|---------------|----------------------|--------------------------|-----------------|
| 1               | 215.                      | 0.15          | 7.2                  | 2.98                     | 13 <sup>o</sup> |
| 2               | 151.6                     | 0.50          | 25.0                 | 6.31                     | 31 <sup>o</sup> |
| 3               | 168.5                     | 0.50          | 24.0                 | 7.02                     | 34 <sup>o</sup> |
| 4               | 236.1                     | 0.32          | 15.4                 | 15.33                    | 45 <sup>o</sup> |
| 5               | 256.7                     | 0.30          | 14.4                 | 17.82                    | 46 <sup>o</sup> |
| 6               | 294.6                     | 0.46          | 22.1                 | 13.33                    | 44 <sup>o</sup> |
| 7               | 141.5                     | 0.30          | 14.4                 | 9.82                     | 40 <sup>o</sup> |
| 8               | 113.6                     | 0.35          | 16.8                 | 6.76                     | 33 <sup>o</sup> |
| 9               | 183.8                     | 0.65          | 31.2                 | 5.89                     | 29 <sup>o</sup> |
| 10              | 385.4                     | 1.20          | 47.6                 | 6.70                     | 32 <sup>o</sup> |
| 11              | 193.4                     | 0.45          | 21.6                 | 8.95                     | 38 <sup>o</sup> |
| 12              | 168.4                     | 0.33          | 15.8                 | 10.65                    | 42 <sup>o</sup> |
| 13              | 375.8                     | 1.11          | 53.3                 | 7.05                     | 35 <sup>o</sup> |
| 14              | 437.7                     | 0.89          | 42.7                 | 10.23                    | 41 <sup>o</sup> |
| 15              | 265.9                     | 0.26          | 12.5                 | 21.27                    | 48 <sup>o</sup> |
| 16              | 285.1                     | 0.32          | 15.4                 | 18.51                    | 47 <sup>o</sup> |
| 17              | 79.5                      | 0.30          | 14.4                 | 5.52                     | 27 <sup>o</sup> |
| 18              | 159.7                     | 0.86          | 41.3                 | 3.86                     | 20 <sup>o</sup> |
| 19              | 248.1                     | 1.35          | 64.8                 | 3.82                     | 19 <sup>o</sup> |
| 20              | 625.4                     | 3.10          | 148.8                | 4.28                     | 24 <sup>o</sup> |
| 21              | 174.2                     | 1.04          | 49.9                 | 3.49                     | 16 <sup>o</sup> |
| 22              | 720.9                     | 3.80          | 182.4                | 3.95                     | 21 <sup>o</sup> |
| 23              | 496.2                     | 1.95          | 93.6                 | 5.30                     | 26 <sup>o</sup> |
| 24              | 687.7                     | 2.55          | 122.4                | 5.6;                     | 28 <sup>o</sup> |
| 25              | 283.7                     | 0.95          | 45.6                 | 6.22                     | 30 <sup>o</sup> |
| 26              | 399.3                     | 0.67          | 32.1                 | 12.42                    | 43 <sup>o</sup> |
| 27              | 250.0                     | 0.60          | 28.8                 | 8.68                     | 37 <sup>o</sup> |
| 28              | 102.6                     | 0.57          | 27.3                 | 3.75                     | 17 <sup>o</sup> |
| 29              | 464.6                     | 1.05          | 50.4                 | 9.21                     | 39 <sup>o</sup> |
| 30              | 114.2                     | 0.30          | 14.4                 | 7.93                     | 36 <sup>o</sup> |
| 31              | 211.1                     | 0.85          | 40.8                 | 5.17                     | 25 <sup>o</sup> |
| 32              | 506.3                     | 4.10          | 196.8                | 2.57                     | 11 <sup>o</sup> |
| 33              | 715.6                     | 10.58         | 507.8                | 1.40                     | 4 <sup>o</sup>  |
| 34              | 107.0                     | 1.10          | 52.8                 | 2.02                     | 8 <sup>o</sup>  |
| 35              | 296.1                     | 1.40          | 167.2                | 1.77                     | 7 <sup>o</sup>  |



TABLE 26.--Continued.

| District No. | (1)<br>Composite Index | (2)<br>% Area       | (3)<br>Area Index | (4)<br>Modified Index | Rank            |
|--------------|------------------------|---------------------|-------------------|-----------------------|-----------------|
| 36           | 273.6                  | 2.55                | 122.4             | 2.23                  | 10 <sup>0</sup> |
| 37           | 422.8                  | 2.60                | 124.8             | 3.38                  | 14 <sup>0</sup> |
| 38           | 477.7                  | 3.40                | 163.2             | 2.92                  | 12 <sup>0</sup> |
| 39           | 396.3                  | 6.40                | 307.2             | 1.25                  | 3 <sup>0</sup>  |
| 40           | 519.2                  | 2.60                | 124.8             | 4.16                  | 23 <sup>0</sup> |
| 41           | 144.4                  | 0.75                | 36.0              | 4.01                  | 22 <sup>0</sup> |
| 42           | 49.3                   | 0.30                | 14.4              | 3.42                  | 15 <sup>0</sup> |
| 43           | 834.7                  | 11.25               | 540.0             | 1.54                  | 6 <sup>0</sup>  |
| 44           | 103.5                  | 1.00                | 48.0              | 2.15                  | 9 <sup>0</sup>  |
| 45           | 159.8                  | 2.80                | 134.4             | 1.18                  | 2 <sup>0</sup>  |
| 46           | 257.2                  | 1.41                | 67.7              | 3.79                  | 18 <sup>0</sup> |
| 47           | 163.6                  | 2.31                | 110.9             | 1.47                  | 5 <sup>0</sup>  |
| 48           | 293.7                  | 18.00               | 864.0             | 0.34                  | 1 <sup>0</sup>  |
|              |                        | 842 km <sup>2</sup> |                   |                       |                 |

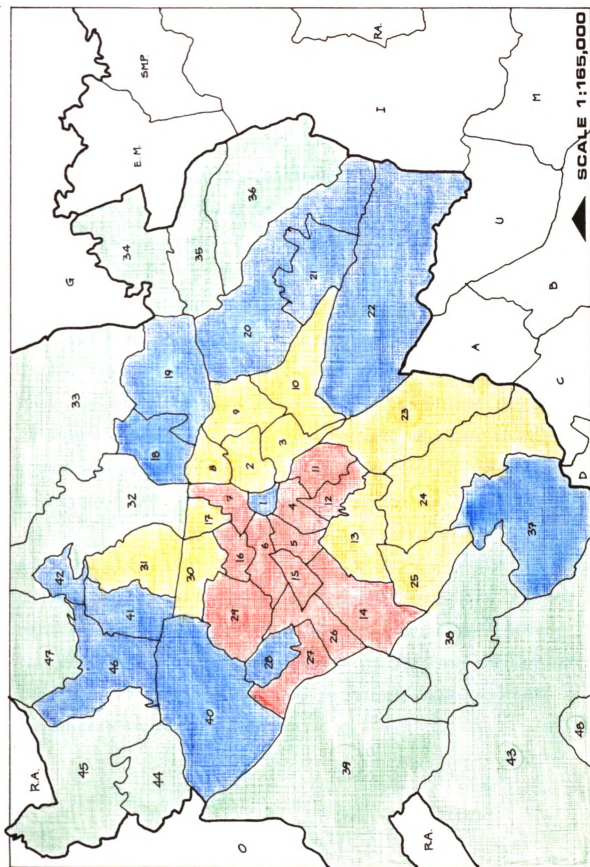
TABLE 27.--Modified Composite Indexes Quartile Distribution and Map Coding.

| Quartile | Index Rank                         | Lowest | Highest | Range | Map Code |
|----------|------------------------------------|--------|---------|-------|----------|
| 1st.     | 1 <sup>0</sup> to 12 <sup>0</sup>  | 0.34   | 2.92    | 2.58  | P        |
| 2nd.     | 13 <sup>0</sup> to 24 <sup>0</sup> | 2.98   | 4.28    | 1.30  | S        |
| 3rd.     | 25 <sup>0</sup> to 36 <sup>0</sup> | 5.17   | 7.93    | 2.76  | T        |
| 4th.     | 37 <sup>0</sup> to 48 <sup>0</sup> | 8.68   | 21.27   | 12.59 | Q        |

When the modified composite indexes were plotted, a very interesting and meaningful set of patterns related to market opportunity began to emerge. Although these characteristics are observable on the map, it seems worthwhile to discuss some of them.

Figure 17. Composite Index: Modified

| <u>Quartile</u> | <u>Map Code</u> | <u>Map Color</u> |
|-----------------|-----------------|------------------|
| 1st             | P               | green            |
| 2nd             | S               | blue             |
| 3rd             | T               | yellow           |
| 4th             | Q               | red              |



(1) After the density factor was corrected by application of the modified composite index, the external (peripheral) district which earlier ranked first dropped to among the lowest 12 positions. The 12 districts lowest ranked in market opportunity all are outlying, with large areas and a high population index, but a low income index. When market opportunity is analyzed relative to physical space, the peripheral districts lose their generally high ranking.

(2) Another basic observation can be made in relation to higher ranking districts: they cluster together in a definite sector shape in the southwestern region of the city. The only exception to this phenomenon is district 28 (Vila Madalena), which is an enclave of lower-middle class housing among high-income districts, as can be seen in Figure 17.

(3) Interestingly enough, application of the modified index made districts within intraquartile rankings cluster in a definite pattern throughout the area. These patterns seem to offer empirical evidence of the section theory and to contradict Burgess's concentric zone concept; the cluster shape approximates sectorial forms and not concentric subregional forms.

(4) Districts ranked in the third quartile form three clusters in north, northeast, and southeast S. Paulo; these are areas of mixed land use for industry and working class residences. Most households here belong in the upper-lower class or blue-collar brackets.

(5) Finally, a close look at the commercial land-use map in chapter 3 indicates that a major proportion of trade activities are located around the CBD, mostly in districts classified in the third and fourth quartiles. Since a major proportion of the wholesale trade is located in districts 2,3,8, and 9, most retail trade is heavily concentrated in the CBD and in the commercial axes in the third and fourth quartile districts. This pattern creates traffic congestion and inconvenience for rush hour shopping, and serves to support our argument for decentralization of retailing at specialized locations.

FOOTNOTES: CHAPTER V

<sup>1</sup>Alderson, Marketing Behavior, pp. 355-357.

<sup>2</sup>Markin, Retailing Management, p. 99.

<sup>3</sup>Instituto Brasileiro Geografia e Estatistica, "Aspectos do Municipio de S. Paulo," (unpublished material, 1968). This study defines the urban area as that served by public utilities services such as power, water, and public transportation.

<sup>4</sup>The master map of S. Paulo's districts was prepared from one originally published by Geomapas, S. Paulo, Brasil, and was reduced from a scale of 1:20,000 to a scale of 1:165,000, which is more adequate for the present work.

<sup>5</sup>SGU--standard geographic unit--will be discussed and explained later.

<sup>6</sup>PUB, vol. 2, p. 216.

<sup>7</sup>Conjuntura Economica, 25, no. 8 (1971), 42.

<sup>8</sup>For a discussion on the use of dispersion measures see Morris Hamburg, Statistical Analysis for Decision-Making (New York: Harcourt Brace, 1970).

<sup>9</sup>The area index is derived in the same manner as population, income, and car ownership indexes, and is expressed by the following formula:

$$A_1 = N \times A\%$$

where

$A_i$  = area index;

N = number of districts; and

A% = percentage of area distribution per district.

## CHAPTER VI

### A NORMATIVE MODEL FOR SHOPPING

#### CENTER LOCATION

##### Introduction

Thus far, we have analyzed retailing development and the consequent evolution of the shopping center in Brazil. These developments have been related to basic theories and concepts which are both helpful in understanding such developments and which provide standards for judging performance of those shopping centers actually in existence. Analysis has indicated that existing shopping centers in the GSPMA have suffered somewhat in their planning as judged relative to the conceptual foundations elaborated. Thus, to make this dissertation more constructive it is helpful to formulate a preliminary normative model which can be used to aid in shopping center planning. Such is the subject matter of this chapter.

In accordance with the conceptual framework analyzed previously, the modeling process will relate costs and revenues to potential in order to provide

normative guidelines for investment decisions. The model below conceives of shopping centers as complex institutional entities in constant interaction with and interdependent upon their immediate environment, namely, their trade areas.

### Basic Criteria

When centers locate in a trade area they incur costs; by the same token they draw revenues from the existing market opportunity within the trade area's boundaries. Market opportunity, the size of the shopping center, and the competition within the trade area will define the revenues which the center will be able to generate. On the other hand, building and retailing costs are the resources which must be allocated in order to generate these revenues. It is implicit in the evaluative process of shopping center location that the investment will be undertaken only if revenues (outputs) exceed costs (inputs).

However, the decision-making process in the specific case of shopping centers is not simple because of the large number of variables which affect the system and because of two entities involved in the venture, namely, the investor and the retailer. The



investor, who may be a real estate developer, an investment company, or a landowner, is concerned with the rental revenues which the center must generate in order to return his investment according to criteria which will be examined later. The retailer seeks a sales volume sufficient to recover the cost of goods, operational expenses, rental cost, and, hopefully, to allow for some profit margin.

The structural relationships of the system indicate that both investors' and retailers' objectives are dependent on the sales volume generated by the center. They also are interrelated because the investors' returns ultimately are dependent upon storekeepers' rental paying capability. In a great majority of rental contracts these interrelationships go even further since rentals frequently are charged as a percentage of sales volume. Rentals in the model which will be proposed here will be considered as an output of the investor and an input of the retailer.

Let us examine how these two participants define their financial and operational objectives in a shopping center venture, and what parameters guide their decision criteria.

### Investor's Objectives

A shopping center investor usually will allocate his resources to a project which, in the long run, is capable of generating rental revenues large enough to return his investment. Because these rentals are not received at once, and because of risks and uncertainties related to their flow, they must be discounted at their present value by evaluation criteria such as internal rate of return or net present value approaches.

Generally a shopping center investment decision may be expressed by the following formula:

$$\sum_{i=1}^n \frac{1}{(1+d)^n} R_t \geq I, \quad (6.1)$$

where

$I$  = shopping center investment;

$R_t$  = annual rental earnings projected for the next  $n$  years;

$d$  = discount rate; and

$n$  = the last year for which  $R_t$  is estimated, or the length of the planning horizon.

In evaluating a particular alternative, the investor compares the resulting present value of the rental stream

over  $n$  years to the present value of the investment required to develop the center. If the condition stated in equation (6.1) is achieved, the project is desirable. In other words, acceptability is determined by whether or not the difference between the discounted stream of rentals and the investment is equal to or greater than zero.<sup>1</sup> The investor's inputs are the amounts used in the center's development and construction; his outputs are the rentals.

#### Investor's Capital Cost and Revenues

The next step is to describe, for analytical purposes, the composition and characteristics of a shopping center's investments and revenues.

Costs.--The investment is the major capital cost and can be expressed by the following formula:

$$I = L_c + B_c + P_c + D_c, \quad (6.2)$$

where

- $I$  = investment;
- $L_c$  = land site cost;
- $B_c$  = building cost;
- $P_c$  = parking lot cost; and
- $D_c$  = development costs.

Land cost,  $L_c$ , is a very important factor since it is, to some extent, out of the investor's control. The land has a market price which must be paid by the investor if he wants to acquire a specific site, or, if he owns the site, it is implicit that its value represents an opportunity cost to him. Furthermore, clearly a land site has a market value which remains fixed whatever the size of the center to be constructed within its boundaries.

The building cost,  $B_c$ , and parking lot cost,  $P_c$ , are in some measure controllable by the investor since he may decide upon the size of the building and parking lot areas. However, it is necessary to recall that chapter 2 indicated that a building's physical dimensions and its parking lot must be in proper balance with the site's area.

Development costs,  $D_c$ , are all costs and non-recoverable expenses invested in the center's planning and development until it begins to operate; these include marketing research fees, project costs, leasing obtaining fees, and so forth.

Revenues.--The investor's revenues are defined, for the purposes of this model, as the proceeds generated by the center's rentals through various means, including tenant basic agreements. These agreements usually are of two types:

- (1) Fixed Rental Income. Minimum rent is paid by each tenant; generally it is a fixed percentage of the building area costs and land value.
- (2) Variable Rental Income. Rent may vary as a percentage of sales.

The revenues derived from rentals are not received by the center's investor immediately, but throughout the center's economic life. Because of this long-range operational horizon, cash flow must be reduced to its present value through some conventional procedures, usually the present value method or the internal rate of return method.

The first method involves discounting the expected net income stream by the company's cost of capital, which yields the present value of the income stream.<sup>2</sup> The present value of the shopping center's net income stream must be compared with the investment required to develop the center up to its point of opening. These costs involve land acquisition, construction, and all other organizational expenses. If the present value of the rental or income stream exceeds the investment, the center investor will earn a rate of return on his investment larger than his cost of capital.<sup>3</sup>

The internal rate of return for an investment is the discount rate that equates the present value of the expected cash outflows with the present value of the expected inflows.<sup>4</sup> When this method is used to evaluate a shopping

center project, the internal rate of return must exceed the required rate which the investor expects the center to earn. For example, if the required rate of return is 10 percent and the application of this method indicates a 15 percent internal rate of return, the project is acceptable.

In general, the present value and internal rate of return methods lead to the same acceptance or rejection decision.<sup>5</sup> When there is no concern for alternative investments, and when reinvestment rates are not under consideration, either method may be used. The present value method will be preferred here because it avoids the difficulties of finding the internal rate of return by means of the so-called trial and error iterative process.

#### Investor's Acceptance Criterion

The previous discussion permits us to define the acceptance criterion for a shopping center investment. From equation (6.2) we know that

$$I = L_C + B_C + P_C + D_C. \quad (6.2)$$

On the right side of this equation are the capital costs to be invested in a shopping center project and which, for financial purposes, must be considered as outflows.

The rentals of the center, on the other hand, must be considered inflows and may be expressed, in accord with the previous analysis, by the following formula:

$$R_t = R_f + R_v, \quad (6.3)$$

where

$R_t$  = total rental;

$R_f$  = fixed rental; and

$R_v$  = variable rental.

Since  $R_f$  generally is calculated as a percentage of the center's final cost, and  $R_v$  is, in most cases, a percentage of the center's sales,  $R_t$  may be better expressed in the following manner:

$$R_t = \lambda I + \lambda' S, \quad (6.4)$$

where

$R_t$  = total rental;

$I$  = investment;

$S$  = shopping center sales per year;

$\lambda$  = percentage rate; and

$\lambda'$  = percentage rate.

Thus,

$\lambda I = R_f$  = fixed rental;

$\lambda' S = R_v$  = variable rental.

Taking into consideration that the investor must be interested in the present value of the total rental stream discounted at a certain rate,  $R'_t$ , the acceptance criterion may be expressed as follows:

$$R'_t \geq I, \quad (6.5)$$

where

$R'_t$  = total rental stream present value and  
 $I$  = investment.

Assuming constant rental values over a period of  $n$  years,  
 $R'_t$  may be calculated by the following expression:

$$R'_t = \sum_{i=1}^n \frac{1}{(1+d)^i} R_t, \quad (6.6)$$

since

$$R_t = \lambda I + \lambda' S \quad (\text{by } 6.4)$$

and

$$I = L_c + B_c + P_c + D_c \quad (\text{by } 6.2).$$

The investor acceptance criterion can be formulated  
 by the following mathematical expression:

$$\sum_{i=1}^n \frac{1}{(1+d)^i} R_t \geq I. \quad (6.7)$$

Substituting  $R_t$  by its expression given in equation (6.4)  
 and  $I$  by the right side of equation (6.2) we have

$$\sum_{i=1}^n \frac{1}{(1+d)^i} \times (\lambda I + \lambda' S) \geq L_c + B_c + P_c + D_c. \quad (6.8)$$



Equation (6.8) is the analytical expansion and also the mathematical expression of the investor's acceptance criterion.

It is worthwhile to mention that this formula may be interpreted verbally in the following manner: a shopping center investor will accept a project proposal when the present value of this rental stream, given by the discounted value of the center's fixed and variable rental stream, is larger or at least equal to the investment required (which is composed of land acquisition costs, construction costs, and development expenditures).

#### Retailer's Objectives

A retail store is a profit-oriented organization whose implicit goals are revenue-seeking activities and profit maximization. From the conceptual analysis made in chapter 2 and from the discussion of trade area theories, it is easy to perceive the extreme importance of locational patterns for retailing activities.

For these reasons a storekeeper will decide to move into a shopping center only if the sales volume in this location is sufficiently large to recover his costs and leave some margin for rental expenses. It also is clear that his net earnings must be larger than in an alternative or independent location outside the center. Furthermore, sales volume as the basic revenue generator is extremely important, and rental values are a major

component of the retailer's total cost. As noted before, rental costs are considered retailers' inputs into the operational system, whereas sales are defined as outputs.

The retailer's financial analysis and profit evaluation criterion may be defined in simple terms:

$$S - C_g = G_m \quad , \quad (6.9)$$

and

$$G_m - E_p = P \quad , \quad (6.10)$$

where

$S$  = sales;

$C_g$  = cost of goods sold;

$G_m$  = gross margin;

$E_p$  = expenses; and

$P$  = profit.

It is easy to perceive that when

$$S = C_g + E_p \quad (6.11)$$

the retailer is at his breakeven point. By the same token, when  $S > C_g + E_p$  there is a profit, and when  $S < C_g + E_p$  there is a loss. By definition, the breakeven point is that point or stage in the retailer's operation where sales equates total costs, or the sum of the cost of goods sold plus expenses.

### Retailer's Cost and Revenues

Let us now examine the major characteristics of retailers' costs and revenues. Since this is a broad subject, we will restrict the analytical scheme to the interests of our normative model.

Costs.--We have said that costs must be considered as inputs of several different kinds which must be applied to running a retailer's operation. In order to derive financial information for modeling purposes, we shall treat costs in accordance with the following typology: (a) fixed costs; (b) variable costs; and (c) mixed costs. The first can be defined as costs which, for a given period of time or for a relevant range of activity, remain constant; the second are costs which, by their nature, vary in direct proportion to changes in the activities to which they are related. Mixed costs are those which contain both fixed and variable elements, for example, the shopping center's total rental is composed of a fixed element, generally a percentage of the total investment, and a variable element, generally a percentage of sales.

The retailer's cost behavior may be viewed as

| <u>Nature</u> |   | <u>Costs</u>                              |
|---------------|---|---|
| Fixed         | - | Salaries, Overhead, Advertising, etc.     |
| Variable      | - | Cost of goods sold                        |
| Mixed         | - | Rental (Fixed Element + Variable Element) |

Revenues.--For the purposes of the present analysis, retailers' revenues will be defined as the total cash flow generated by net sales volume at retail prices. The revenues are considered outputs of the retailer's operation and will be indicated by the letter S, as mentioned earlier in this chapter.

#### Retailer's Cost and Revenue Analysis

The retailer's decision whether or not to locate in a shopping center is made by quantitative techniques which are focused on the determination of revenue, cost, and profit relationships. In general, the most commonly used analytical tool is the so-called break-even analysis, which provides mathematical and graphic solutions for volume-cost-profit problems. It indicates the point where revenues equate costs and may be expressed either in terms of units or dollars. In our model this analysis will be applied to determine the minimum amount of sales which the retailer needs to break even.<sup>6</sup> Such a condition may be expressed by the equation

$$S' = Fc + Vc + Mc, \quad (6.12)$$

where

$S'$  = sales needed to break even;

$Fc$  = fixed costs;

$Vc$  = variable costs; and

$Mc$  = mixed costs.

To solve equation (6.12) for  $S'$  it is necessary to break down  $Mc$  into its fixed and variable elements and to determine the contribution margin ratio that is the excess of  $S$  over  $Vc$ . Such an amount may be expressed on a total basis or as a ratio.<sup>7</sup>

Applying simple algebraic transformations, it is easy to find the break-even point (BEP) in terms of dollars sales as follows:

Let  $S' =$  sales in dollars needed to break even,  
then

$$S' = Fc + Vc + Mc. \quad (6.12)$$

Since  $Mc$  has a fixed and variable component, equation (6.12) can be rewritten as

$$S' = Fc + Mcf + (Vc + Mcv), \quad (6.13)$$

where

$Mcf =$  fixed element of  $Mc$ , such as fixed rent, and

$Mcv =$  variable elements of  $Mc$ , such as variable rent.

Because  $Vc$  and  $Mcv$  are percentages of sales, equation (6.13) may be expressed as

$$S' = Fc + Mcf + \alpha S', \quad (6.14)$$

where

$Vc + Mcv = \alpha S'$ , and

$\alpha =$  variable cost coefficient  $< 1$ .

Then the contribution margin coefficient is simply calculated by the expression

$$S' - \alpha S' = \pi S' \quad (\alpha + \pi = 1). \quad (6.15)$$

Substituting for equation (6.14) and solving for  $S'$  we have

$$S' = Fc + Mcf + \alpha S',$$

$$S' - \alpha S' = Fc + Mcf, \text{ and}$$

$$\pi S' = Fc + Mcf,$$

and solving for  $S'$  we have

$$S' = \frac{Fc + Mcf}{\pi}, \quad (6.16)$$

where

$$\pi = \text{contribution margin ratio.}$$

Noting that  $Mcf$  is the fixed element of the rental expenses we may express (6.16) in a different and more meaningful way:

$$S' = \frac{Fc + Rf}{\pi}, \quad (6.17)$$

where

$$Rf = \text{fixed rental from (6.3).}$$

Equation (6.17) reflects the minimum sales volume which is needed by the retailer to break even; it must be interpreted as the lowest level of revenue output which will allow him to recover fixed and variable costs as well as the total rental costs which are due to the shopping

center investor. Another advantage of this equation is that it integrates into the calculation both elements of the mixed costs, fixed and variable rental.

The acceptance criterion of a retailer, then, is that he will lease space at a shopping center if, and only if, the center's trade area can provide a minimum sales volume sufficient to recover his operational costs and the extra amount needed to face fixed and variable rental expenses. Obviously, a profit margin must be added, but will not modify the mathematical reasoning, since a target profit figure may be added to the numerator of (6.17) and the new target sales volume in dollars can be calculated immediately.<sup>8</sup>

#### Investor and Retailer: Joint Objectives

We now can evaluate the joint objectives of the two entities involved in a shopping center venture. In an ultimate and definite sense, both depend upon the market opportunity, since it is from this that revenue streams originate. The retailer's minimum sales must be sufficient to cover his retailing costs, his share of the center's fixed and variable rental expenses, and a certain target profit margin. The shopping center investor, on the other hand, seeks a rental stream whose present value will at least equal his investment. The relationship between the two is obvious, but the minimum sales volume required by the retailer is larger since his rental expenses are rental

income to the investor. In conclusion, the shopping center investor must introduce an incremental sales volume allowance into his calculations to provide for the retailer's target profit objective.

### Shopping Center Sales Potential

These various decision criteria emphasize that one of the most important variables in the model are sales, against which investment and retailing costs must be compared. We need to begin the modeling with the determination of the sales potential for a shopping center. It is necessary to state that sales potential is a function of the trade area market opportunity;<sup>9</sup> it is defined as the total sales volume that can be sold to household units within the trade area's geographic boundaries during a defined time period (one year). This definition assumes ceteris paribus conditions and does not account for competition and other factors which will be analyzed later

The analytical and conceptual framework developed in chapter 2 allows us to express shopping sales potential as

$$S_p = [H \cdot I \cdot r_n] + T, \quad (6.18)$$

where



$S_p$  = total sales for the shopping center per year;

$H$  = number of households in the trade area;

$I$  = household disposable income per year;

$r_n$  = percentage of  $I$  spent in retailing purchases;  
and

$T$  = transient sales, or those sales made to persons living outside the trade area or to households located outside this area.<sup>10</sup>

A closer examination of equation (6.18) will show that it is unrealistic because it assumes a constant market share for the shopping center all over its trade area. Since this assumption conflicts with the conceptual analysis developed previously, (6.18) must be rewritten as follows:

Let  $S_p = S_{p1} + S_{p2} + \dots + S_{pn}$ ,

and

$$S_{pi} = (H_i \cdot I_i \cdot r_i) m_i,$$

where

$S_{p1}, S_{p2}, \dots, S_{pn}$  = sales for the shopping done in subtrade area  $i$  (per year);

$H_1, H_2, \dots, H_n$  = number of households in subtrade area  $i$ ;

$I_1, I_2, \dots, I_n$  = household disposable income per year at subtrade area  $i$ ;

$r_1, r_2, \dots, r_n$  = percentage of  $I$  spent in retailing purchases in subtrade area  $i$ ; and

$m_1, m_2, \dots, m_n$  = shopping center market share a subtrade area  $i$ .

Therefore,

$$S_p = \left[ \sum_{i=1}^n (H_i \cdot I_i \cdot r_i) \cdot m_i \right] + T. \quad (6.19)$$

The evaluation of a shopping center's sales potential, if calculated by the use of (6.19), is much more meaningful and precise. It is sensitive to variations in market penetration in each of the subtrade areas and also accounts for time and distance, which are the causal factors for different market shares in diverse subtrade areas.

The data and the spatial behavior constructs for conducting such an evaluation must be collected through field research which apply measurement models such as those suggested by David Huff, Homer Hoyt, and William Applebaum.<sup>11</sup> The trade area configuration and geographic delineation must use geometric figures such as circles, and hexagonal or square grids, with the necessary corrections and allowances for man-made or natural barriers.

The final figures for sales potential represent a first approximation of the shopping center's sales opportunity and must be used by the investor and retailer as the central construct for evaluating their decision criteria. In conclusion, potential sales figures which cannot provide sufficient volume to fulfill the conditions established in equation (6.8) and equation (6.17) represent an explicit criterion for rejection by both the investor and the retailer. This statement is correct

since neither the present value criterion will be fulfilled for the investor, nor the break even objective achieved by the retailer.

### Competitive Uncertainty

Up to this point the modeling process has been conducted under the unrealistic assumption of certainty, and little attention has been given to competitive aspects. Risk and uncertainty now will be introduced into the model to test its capability and increase its decision strength.

### Decision Tree Analysis

In order to evaluate the competitive environment under uncertainty conditions, a decision tree diagram will be used to explain how the shopping center investor must correct the net present value of rental stream under these conditions. The shopping center investor may place alternatives and probabilistic events on the branches of the decision tree diagram, which represents paths of sequential occurrences and their outcomes.

According to Robert Buzzel and others, a decision tree will indicate to the decision maker the essential elements of any problem.<sup>12</sup>

1. What are the options? (Acts)
2. What are the relevant uncertainties? (Events)
3. What are the possible outcomes? (Consequences)
4. What is important to the decision maker? (Criteria)

Let us assume for modeling purposes that a shopping center is being planned and that the first decision to be made is regarding its size. For the sake of simplicity, let us restrict the decision to two alternatives:

$A_1$  = build a center with area  $a_1$ , and

$A_2$  = build a center with area  $a_2$ .

Let us say, also, that the following sequential and probabilistic events may occur:

$E_1 = \underline{D}$  - demand in the trade area;

$H$  = high demand,

$M$  = medium demand, and

$L$  = low demand.

$E_2 = \underline{C}$  - competition in the trade area;

competitor enters the trade area; and

$N$  = competitor does not enter the trade area.

$E_3 = \underline{CL}$  - competition location;

$T_1$  = competitor locates in the primary trade area,

$T_2$  = competitor locates in the secondary trade area,  
and

$T_3$  = competitor locates in the tertiary trade area.

$E_4 = \underline{CS}$  -competition size;

CM = competitor builds a larger center,

CE = competitor builds an equal size center, and

CP = competitor builds a smaller size center.

$E_5 = \underline{SM}$  -competition store mix;

SL = competitor has a more complete store mix,

SE = competitor has an equal store mix, and

SP = competitor has a less complete store mix.

These events and their relative impact on the projected shopping center preferably should be analyzed, determined, and evaluated by means of research and detailed studies regarding the outlook and the economic conditions of the region under scrutiny. In the event of impossibility or impracticability of arriving at such estimates empirically, the analyst is forced to use subjective estimates. It is important that the quality and accuracy of these data will have a direct relationship to the eventual results and validity of the analytical framework, which will be discussed in detail below.

The next step in the decision-making process is to display various acts and events in a diagram; this step will give the decision maker an integral and clear view of all possible sequences of events which may follow an act or a set of acts. Thus, each path through the tree represents a possible sequence to which is associated a final monetary outcome (consequence).<sup>13</sup> In our model these

outcomes are the present value of the rental streams for each path of sequential events. They must be derived from management studies about the results of each of the alternative acts and the possible sequential paths. The present value of each path is placed in the right extremity of each sequential path. In the tree diagram, Figure 18, these data illustrate the procedure explained above.

The last step is to apply probabilistic estimators to each of the possible events. Since these events are sequential in relation to their path, but are mutually exclusive and are collectively exhaustive relative to their outcome chances, they will be assigned the following probabilities:

$$0 \leq p(A_i) \leq 1.00,$$

where

$p(A_i)$  is each event's chance.

This procedure is illustrated in Figure 18, which incorporates all the information of the previous illustration plus the probabilistic parameters; this completes the requirements for an analysis under risk conditions.

The optimal sequence of decisions is determined by a process known as roll back,<sup>14</sup> which is a process of backward probability induction achieved by working the tree diagram from right to left. The final result of this method indicates the expected value of each alternative given the various sets of sequential events; the expected

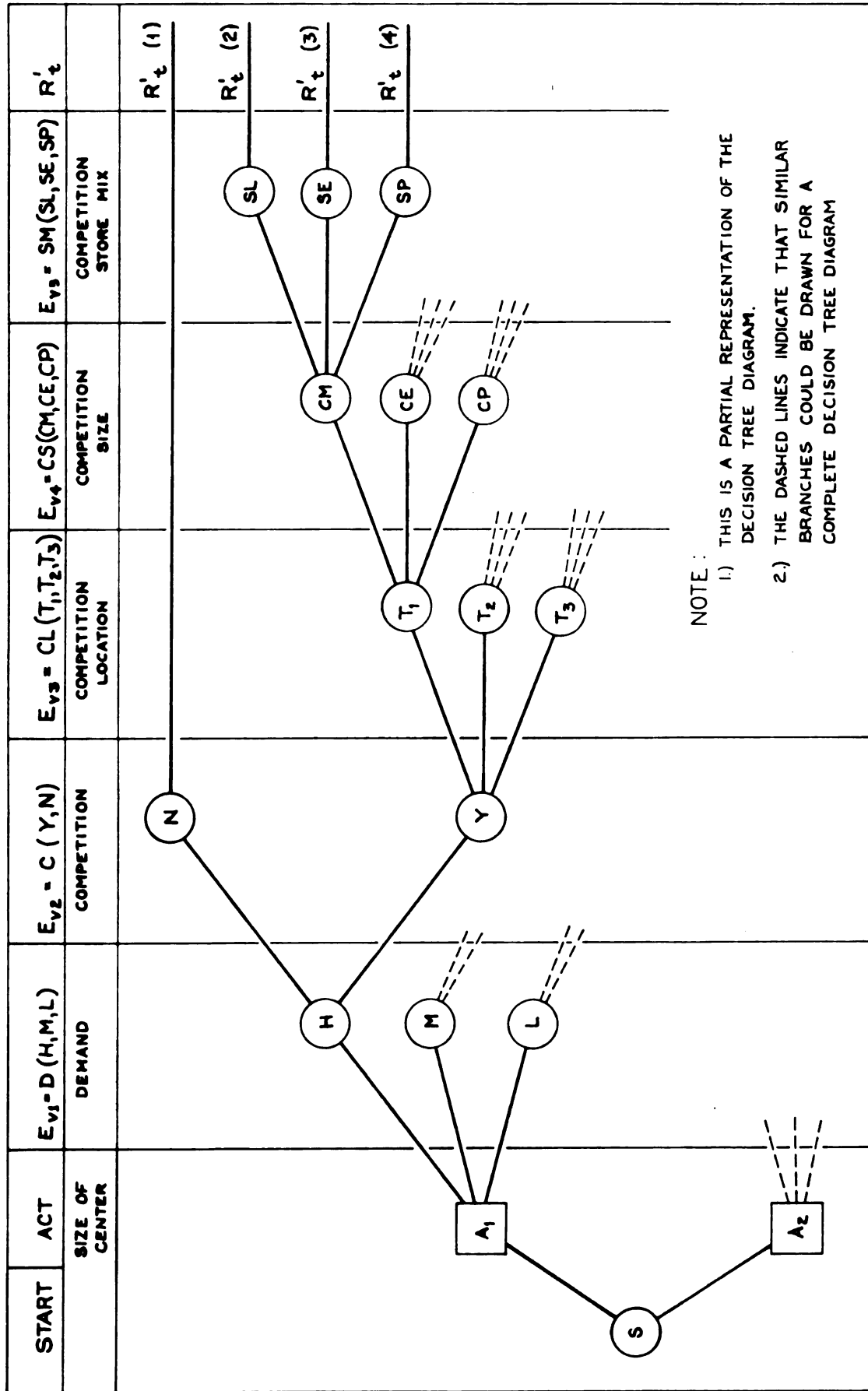


FIGURE 18. DECISION TREE DIAGRAM ( PARTIAL REPRESENTATION)

value of the branch tip times the probability of its occurrence.<sup>15</sup> This procedure is illustrated in Figure 19.

The probabilities of each event and their impact on the present value of the rental stream can be generated by empirical observation of analogous situations or by the Bayesian inference, which accepts as inputs not only observed data, but also the (investor's) subjective probabilities.<sup>16</sup> The second method's advantage is in allowing the use of probabilities based on subjective judgment formed before the evidence is available to the decision maker. This approach is also known as preposterior analysis and is considered an essential tool for decision making under uncertain conditions.

#### Probabilistic Decision Criterion

From our discussion it seems clear that the application of competitive constraints and their probabilities reduces the present values which were calculated under the unrealistic assumption of certainty. Therefore, use of the tree diagram indicates that the investor will accept the shopping center project only if the expected value of the present value of the rental stream's optimal decision branch exceeds or at least equalizes the present value defined for investment purposes in equation (7.5).



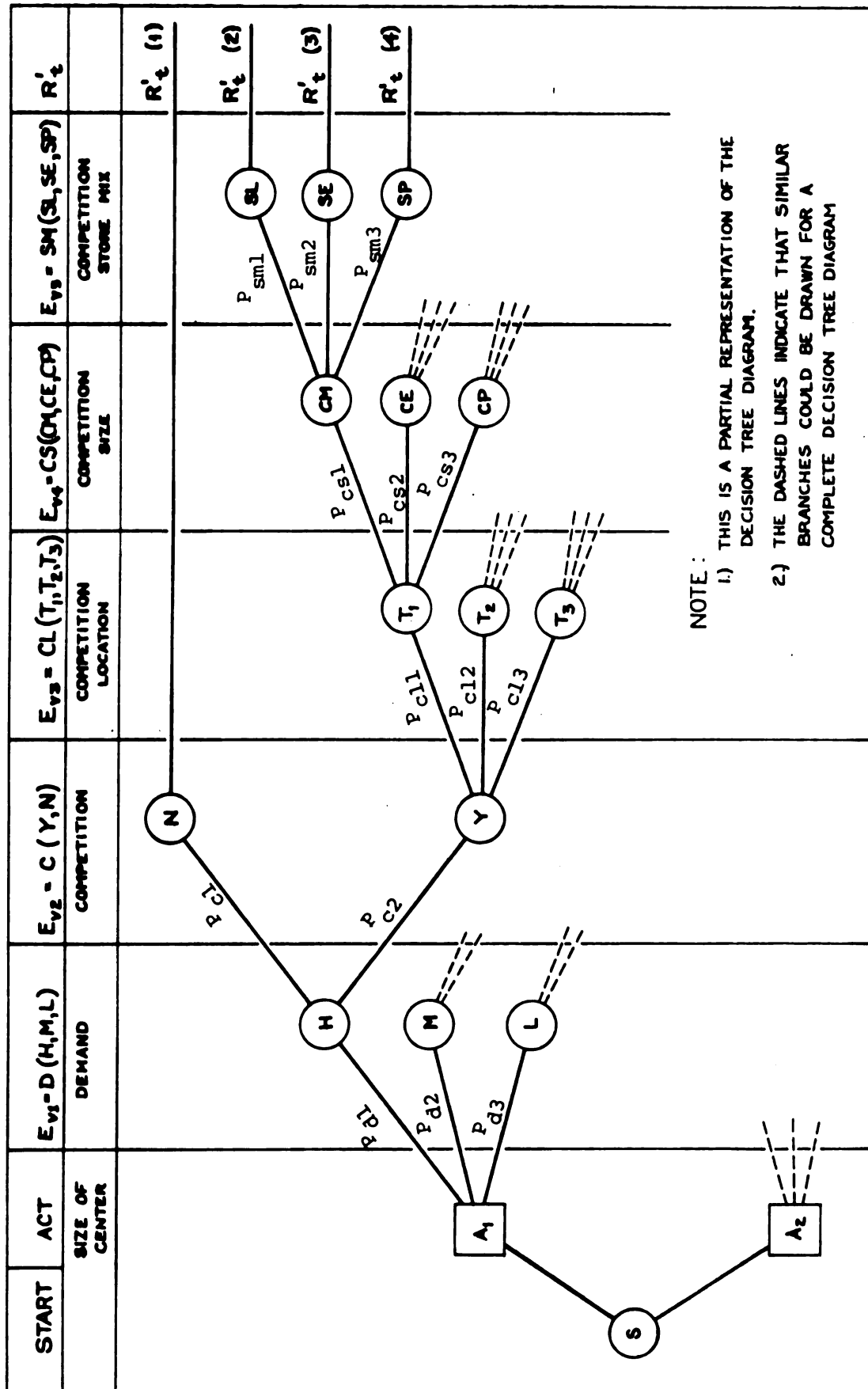


FIGURE 19. DECISION TREE DIAGRAM SHOWING PROBABILITIES (PARTIAL REPRESENTATION)

This condition can be outlined in the following manner. Let us recall that the investor acceptance criteria in (6.5) is

$$R'_t \geq I, \quad (6.5)$$

where

$R'_t$  = present value of annual rental streams, and

$I$  = investment.

Since the probabilistic investment acceptance criterion stated that the expected value of  $R'_t$  must be equal to or exceed its value under conditions of certainty, we can write

$$R'_{tp} \geq R'_t \geq I, \quad (6.20)$$

where

$R'_{tp}$  = expected value of annual rental stream's present value,

$R'_t$  = present value of annual rental stream, and

$I$  = investment.

Since

$$R'_{tp} \geq R'_t \text{ and } R'_t \geq I,$$

then

$$R'_{tp} \geq I. \quad (6.21)$$

Taking into consideration that the investor must introduce an incremental allowance for the retailer's profit margin, (6.21) must be rewritten in the following manner:

$$R'_{tp} + P_t \geq I, \quad (6.22)$$

where

$R'_{tp}$  = expected value of rental stream's present value,

$P_t$  = target profit, and

$I$  = investment.

The target profit's incremental allowance also must be calculated under uncertainty conditions using the same sequential events utilized to derive  $R'_{tp}$ . Therefore, letting  $P'_t$  equal the expected value of the target profit, the inequality (6.22) may be expressed in the following way:

$$R'_{tp} + P'_t \geq I, \quad (6.23)$$

where

$R'_{tp}$  = expected value of rental stream's present value, and

$P'_t$  = expected value of target profit's present value.

This formula is the final result of our model and may be expressed verbally: a shopping center investor will accept a project if and only if the sum of the expected value of the rental stream's present value plus the expected value of the retailer's target profit's present value is larger than the investment required to develop the center up to the beginning of its operations.

### Land Site Costs

Since retailing has a close relationship with its contiguous environment, any normative model for retailing location must consider the effects of environmental variables. Among these variables, the most important is the land site, for several reasons. (1) As a generic statement, we may say that land always has been a critical determinant of the locational patterns of economic activity. (2) Since the location of retailing institutions is fixed and always involves a long-run decision, the cost of a land site must be considered a long-run contractual cost for the entities involved in retailing. (3) Because site location and market opportunity have a definite and mutual relationship, and recalling that land site is a cost, whereas sales revenues are a function of the market opportunity, it follows that the acquisition costs of the land site must be an initial and central consideration to the shopping center investor. (4) Since urban land supply is fixed and its prices are a function of relative advantages within the area, it is possible to say that the shopping center investor must evaluate the cost of the land site in relation to the minimum sales revenues required by the investment criteria discussed previously. (5) Finally, by virtue of the operational and physical characteristics of shopping centers, it is necessary to maintain a ratio between the building area and the land site. This constraint

means that on a given land site the dimensions of the center must be considered the dependent variable.

This discussion leads us to conclude that only certain sites are available and adequate for locating shopping centers; the relative position of these sites within the trade area affects their prices and their drawing power; each site has a given size and cost which are noncontrollable by the investor; and the architectural and operational characteristics of shopping centers preclude building areas from exceeding certain proportional upper limits of the land site area.<sup>17</sup>

#### Site Decision Criterion

According to the previous analysis, it is possible to affirm that the totality of a shopping center's rental streams are a function of its trade area sales opportunity and of its specific site conditions (location, competition, size of the site, and so forth).

Furthermore, having in mind that sales revenues and land costs were variables used to define the investor's and the retailer's acceptance criteria,<sup>18</sup> and taking into consideration that land cost and potential are exogenous and noncontrollable variables, it becomes obvious that all these must be evaluated first in the shopping center investment decision process.

Because the price of land sites is a given and is out of the investor's control, it is reasonable to term this variable a major constraint. The acceptance or rejection criteria to which it is subject can be expressed by the following normative statements.

(1) Given a market opportunity, the investor will choose a site whose position, size, and acquisition cost will permit the achievement of an expected value of rental streams, plus the retailer's target profit's present value, larger or at least equal to his investment.

(2) Given a site for which there are known parameters such as position, size, and acquisition cost, the investor will accept the investment only if the trade area's market opportunity provides a minimum threshold which will permit him to achieve an expected value of rental streams, plus retailer's target profit's present value, larger or at least equal to his investment.

It is interesting that both criteria take market opportunity and land site constraints into consideration. The basic difference between them lies in the fact that the first begins with an evaluation of the prospective revenue potential and proceeds on to the cost needed to generate the shopping center's returns. The second begins with the analysis of the cost and proceeds to the evaluation of the revenues which must be derived from the market opportunity. Both approaches

are correct and consistent with this model's framework. Their alternative application and the selection of one of them will depend on the data available to the decision maker and also whether or not a specific site is under consideration.

### Model Evaluation

The model developed in this chapter is comprehensive, generic, and systemic. Furthermore, it draws upon quantitative and qualitative tools of analysis, since its modeling process uses principles of cost and revenue analysis, financial policies, and statistics. The model begins with the determination of the system's components and interactions, then defines the objectives and criteria of each component entity.

In the first set of equations and inequalities, the analysis was conducted without consideration of risk and competition, but application of the decision tree diagram incorporated uncertainty parameters and the analytical framework gained broader dimensions.

Finally, two other major constructs were integrated into the model: sales potential and the exogeneous, non-controllable factors linked with land site cost, size, and availability. Both constructs are of extreme importance since they represent the so-called environmental variables which, by and large, are at the core of marketing and retailing theory.

Application Guideline

Despite the fact that the model was developed in a logical sequence, it seems worthwhile to suggest a brief guideline for its application. To do so, the analyst must assume the perspective of the shopping center investor and proceed through the following sequence of steps:

1. Determine market opportunity;
2. Evaluate land site constraints;
3. Determine cost parameters and relationships;
4. Determine revenues as related to potential;
5. Apply investor decision criterion;
6. Apply retailer decision criterion;
7. Aggregate investor and retailer criteria;
8. Evaluate cost and revenues as related to potential within the constraints established by the investor and retailer criteria;
9. If the results do not meet the requirements of 5,6,7, and 8, reject the project, halt, or select another alternative;
10. If the results meet the criteria of 5,6,7, and 8, proceed on to step 11 to introduce competitive and probabilistic corrections;
11. Apply the probabilistic constructs of the model to allow for uncertainty adjustments; and



12. Select the best path of the decision tree diagram and verify if it still meet the conditions established in 5,6,7, and 8; that is, an expected value of rental streams, plus target profit's expected present value, must be larger or at least equal to the shopping center's required investment.

The sequence of steps above also may be depicted by means of a logical flow diagram, which enhances the meaning and the precision of the steps suggested here. Another advantage of this schematic presentation is that it allows for the application of feed back loops, "what if" statements, and intermediate loops at certain points of the logical decision flow (see Figure 20).

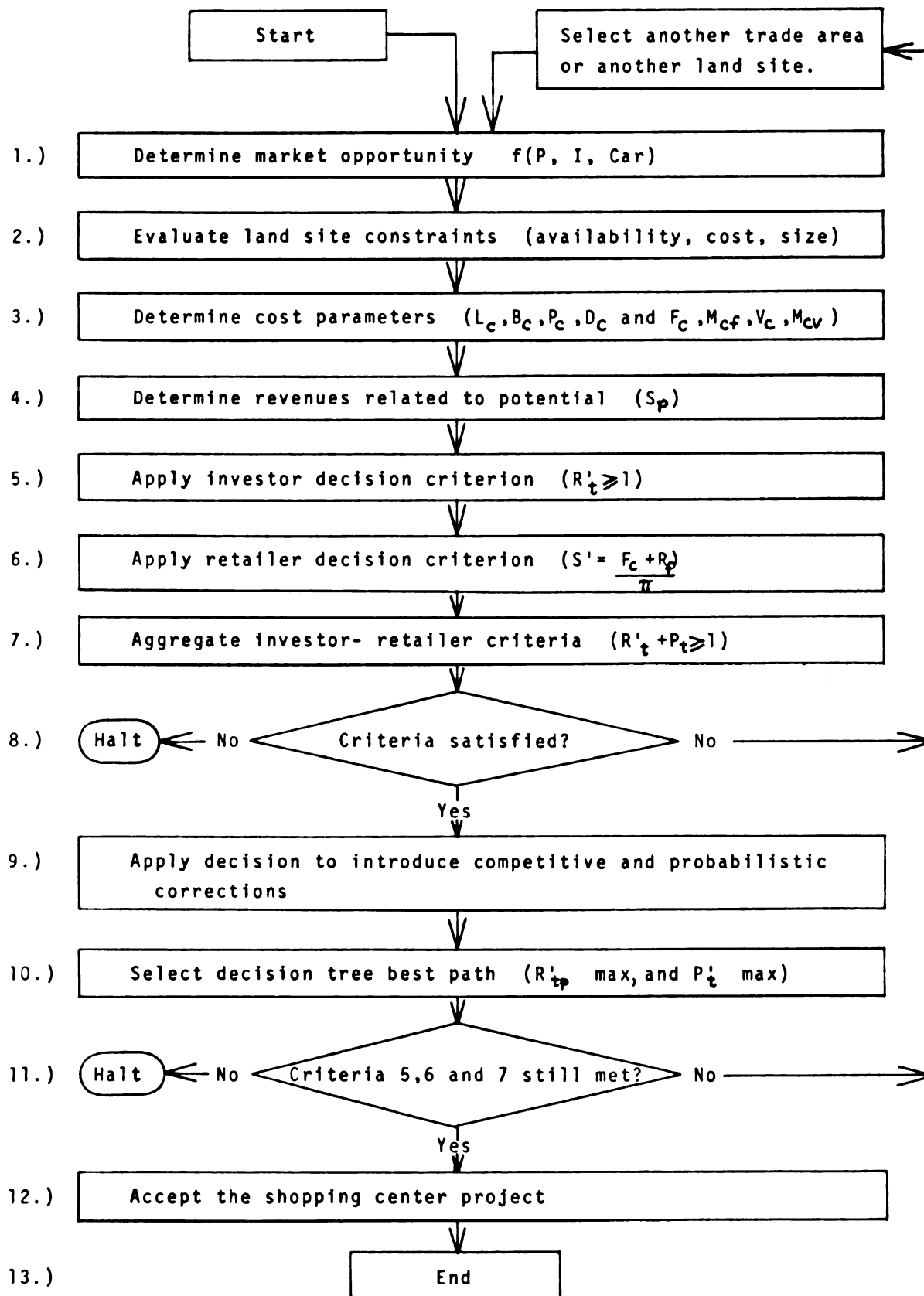


Figure 20. Normative Model- Flow Diagram

FOOTNOTES: CHAPTER VI

<sup>1</sup>Equation (6.1) assumes that the rentals are constant over the n years of the planning horizon. For different annual rentals the expression takes the following form:

$$\frac{R_1}{1+d} + \frac{R_2}{(1+d)^2} + \dots + \frac{R_n}{(1+d)^n} \geq 1,$$

where

$R_1, R_2, \dots, R_n$  are different annual rentals.

<sup>2</sup>Philip Kotler, Marketing Management Analysis, Planning and Control, 2d ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1972), p. 399.

<sup>3</sup>For a complete analysis of investment decision making see Harold Bierman and Seymour Smidt, The Capital Budgeting Decision (New York: The McMillan Company, 1960).

<sup>4</sup>James C. Van Horne, Financial Management and Policy, 2d ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1971), p. 55.

<sup>5</sup>Ibid., p. 61.

<sup>6</sup>The unit break-even form cannot be applied because it is not possible to define standard unit of output for different kinds of retailers.

<sup>7</sup>The contribution margin is expressed as

$$Cmt = S' - Vc$$

or

$$Cmr = S' - vS' = rS,$$

where

Cmt = total contribution margin;

Cmr = contribution margin ratio;

Vc = variable cost expressed as percentage of S;

rS' = Cmr = contribution margin ratio expressed as a percentage of S; and

v and r = coefficients ( $v < 1$  and  $r < 1$ ).

<sup>8</sup>In this case (6.18) can be expressed in the following form:

$$St = \frac{Fc + Rf + Pt}{\pi}$$

where

Pt = target profit.

<sup>9</sup>See the concepts of trade area and market opportunity discussed in Chapters 2 and 5.

<sup>10</sup>Ross W. Ritland, "New Methods of Estimating and Forecasting Retail Sales," Journal of Retailing 39, no. 3 (Fall 1963), 1-9.

<sup>11</sup>These models and concepts were reviewed and discussed in detail in Chapter 2.

<sup>12</sup>Robert Buzzel, Donald Cox, and Rex Brown, Marketing Research and Information Systems--Text and Cases (New York: McGraw-Hill, 1969), p. 566.

<sup>13</sup>Ibid., p. 567.

<sup>14</sup>See Robert Schlaifer, Analyses of Decisions under Uncertainty (New York: McGraw-Hill, 1969).

<sup>15</sup>Van Horne, Financial Management, p. 149.

<sup>16</sup>Buzzel, Marketing, p. 585.

<sup>17</sup> These relationships may be expressed by the following generic formula:

$$\frac{1}{(FR + 1)} LA + \frac{FR}{(FR + 1)} LA = LA,$$

where:

LA = land site area;

F = number of floor levels;

R = proportion of parking area to building area;

$$\frac{1}{(FR + 1)} LA = \text{ground floor area; and}$$

$$\frac{FR}{(FR + 1)} LA = \text{parking area.}$$

An application of this formula to the most conventional types of shopping center design indicates the relationships summarized in the following scheme.

Shopping Center Schematics (areas relationship in percentages).

| (1)<br>Floor | (2)<br>Ratio | (3)<br>Building Area           | (4)<br>Ground Floor<br>Area | (5)<br>Parking Area         | (6)<br>Landsite<br>Area |
|--------------|--------------|--------------------------------|-----------------------------|-----------------------------|-------------------------|
| (No. Floors) | (5):(3)      | BA = F[ $\frac{1}{(FR+1)}$ ]LA | GFA = $\frac{1}{(FR+1)}$ LA | PA = $\frac{FR}{(FR+1)}$ LA | L or,<br>(4)+(5)=(6)    |
| F = 1        | 1:1          | 50%                            | 50%                         | 50%                         | 100%                    |
|              | 2:1          | 33%                            | 33%                         | 67%                         | 100%                    |
|              | 3:1          | 25%                            | 25%                         | 75%                         | 100%                    |
|              | 4:1          | 20%                            | 20%                         | 80%                         | 100%                    |
| F = 2        | 1:1          | 67%                            | 33%                         | 67%                         | 100%                    |
|              | 2:1          | 40%                            | 20%                         | 80%                         | 100%                    |
|              | 3:1          | 28%                            | 14%                         | 86%                         | 100%                    |
|              | 4:1          | 22%                            | 11%                         | 89%                         | 100%                    |
| F = 3        | 1:1          | 75%                            | 25%                         | 75%                         | 100%                    |
|              | 2:1          | 43%                            | 14%                         | 86%                         | 100%                    |
|              | 3:1          | 30%                            | 10%                         | 90%                         | 100%                    |
|              | 4:1          | 23%                            | 7%                          | 93%                         | 100%                    |

For illustrative purposes assume an application under the following parameters:

$$La = 4 \text{ acres or } 16,000 \text{ m}^2;$$

$$F = 3 \text{ floors; and}$$

$$R = 3:1 \text{ thus } R = 3.$$

Then

$$BA = 0.3 \times LA = 0.3 \times 16,000 = 4,800 \text{ m}^2,$$

$$GFA = 0.1 \times LA = 0.1 \times 16,000 = 1,600 \text{ m}^2, \text{ and}$$

$$PA = 0.9 \times LA = 0.9 \times 16,000 = 14,400 \text{ m}^2,$$

since  $GFA \times 3 = BA$  or  $1600 \times 3 = 4,800 \text{ m}^2$  and

$$\frac{14,400}{4,800} = \frac{3}{1}, \text{ or } 3:1.$$

The basic relationships among building area, parking area, and land site area are achieved.

<sup>18</sup>See the mathematical expression of investor decision criterion (6.8) and the same position relative to the retailer (6.17).

## CHAPTER VII

### SUMMARY AND CONCLUSIONS

#### Introduction

This dissertation is a conceptual and integrative study of shopping centers. Its main purpose is to provide, by means of synthesis and a multidisciplinary approach, basic guidelines for the development of shopping centers in the GSPMA.

Such an endeavor is legitimate for at least four reasons. First, the shopping center industry is just beginning to emerge in Brazil. A conceptual and normative study on the subject, if used by developers and shopping center investors, may prove useful in providing norms and measurements in relation to locational as well as investment criteria. Second, the first shopping center experiences in the GSPMA, which have been analysed in this dissertation, fall short of the best use of applied retailing technology, principally concerning location choice and convenient use of the land site. Any contribution toward improvements in these areas must be regarded as useful from an economic and social perspective.

Third, the retailing system is a crucial component of the urban structure. The more complex the city's fabric, the more relevant will be the role of retailing in fulfilling urban dwellers' basic needs and wants. Because of its rapid growth and the late emergence of its automobile industry, S. Paulo today has chaotic traffic conditions and outdated retailing location patterns. The crisis in urban transit is caused by several factors, such as poor urban design, lack of an efficient mass transit system, and the extreme centralization of the retailing system. There seems to be an apparent need for a relocation of retailing institutions at decentralized areas; the use of modern design features such as the shopping center will contribute effectively to reducing congestion in many central areas of the city.

Finally, if shopping centers are to improve the quality of urban life in the GSPMA, they must be located not only outside congested areas, but also as close as possible to the better market opportunity districts. This is particularly true since, aside from the convenience factor, a shopping center must be a profitable operation for its investors and tenants. With this perspective in mind, a preliminary study of S. Paulo's forty-eight districts' market opportunity was developed, along with a normative model for evaluating shopping centers' investment decision criteria. Both analytical tools may be used in the selection and evaluation of shopping center sites.



### The Analytical Approach

Since the marketing literature includes very few recent integrative studies on shopping centers, an ambitious but comprehensive analytical framework was conceived in order to accomplish this dissertation's objectives. From an overall perspective, the present work has interdisciplinary characteristics, and it may represent an effort toward the synthesis of many unrelated contributions to shopping center theory.

The analysis began with the study of retailing theory, with particular emphasis on the retailing system, its objectives, its functions, and activities. The next step focused on the concepts and theories, which have attempted to explain change and evolution in retailing institutional patterns and locational characteristics. From this analysis, two major themes were delineated: the trend toward decentralization, and the evolutionary pattern toward specialization of retailing institutions. Both conditions are conducive to the emergence of shopping centers, which were analyzed in detail from several perspectives. Since the Brazilian experience is still recent and limited, the study was focused on U.S. institutions, which provided parameters for operational analysis.

Our attention then was oriented the examination of retailing in Brazil as well as to the establishment of comparative criteria between U.S. and Brazilian retailing. At this point it was emphasized that there is little, if any, cause and effect relationship between similar events and developments in both systems. On the other hand, it was noted that similarities in both countries may be due to the occurrence of similar economic factors such as industrialization, urbanization, increase in automobile ownership, and mass production of durable goods. A study of the evolutionary dimensions of the Brazilian retailing system and its differences from, and time lag relationship to, its U.S. counterpart completed the conceptual and descriptive part of the dissertation.

Because of retailing's intimate relation with the urban structure and its links with the spatial characteristics of buyer behavior, the next step examined was the interrelationship between retailing and urban systems. Much attention was given to the theories which explain urban growth and changes in cities' structures. Special emphasis was placed on the interrelationship between the location of retailing and the structural changes of the urban system, and the ecological characteristics of these phenomena were discussed in order to point out the relevant impact of retailing location on the quality of urban life. It also was mentioned that retailing activities

are closely related to the movement of people and goods over urban space. Consequently, in modern cities, extreme concentration and centralization of retailing causes traffic congestion and reduces the convenience factor, problems which the application of retailing technology could minimize or avoid.

#### The Greater S. Paulo Metropolitan Area

The concepts and analytical constructs discussed previously were used to examine and evaluate S. Paulo's retailing system and urban structure. An introduction to Brazil's retailing system was presented in order to study its evolutionary characteristics, its specific dimensions, and its evolutionary patterns. Afterward, the discussion was focused on S. Paulo's retailing system and its interrelationship with the city's urban structure. The descriptive analysis indicated the relative progress of retailing practices and institutions in this area of Brazil as well as the problems which retailing is facing and is generating in this region. The poly-nuclear structure of the city and the extreme concentration of trade activities in the CBD and along the radial routes has created traffic congestion and rapid blight in some trade areas.

The first observable ecological adjustment was the decentralization of retailing into unplanned commercial clusters along the major commercial axes. This solution was limited. The emergence of the automobile industry in the late fifties heightened traffic congestion in the area. In addition, traffic flows toward the CBD also were affected since customer parking along the commercial routes reduced the space available for transient traffic.

The emergence of the first shopping center, Iguatemi, in 1964, was a promising sign, since this type of institutional arrangement is the most compatible with the size and structure of the GSPMA. However, to date, there are only two other centers in S. Paulo, which indicates a very slow growth rate. Furthermore, the evaluation of these new centers made in chapter 4 indicated that they did not incorporate concepts of modern retailing; their physical facilities and locations revealed deficiencies which were evident in the surveys conducted in both centers. The general conclusion is that these centers are not effectively serving their purposes because of poor traffic flow at their locations and flaws in their architectural design.

These conditions made explicit the need for better retailing operation in the city of S. Paulo and for an

extended application of retailing technology in the location and design of future shopping centers. These conditions legitimize the nature and objectives of this dissertation.

Due to the lack of secondary data related to the dissertation's specific objective, it was necessary to prepare primary data from existing information derived from other studies in the GSPMA. These data mainly were concentrated on a description of S. Paulo's urban structure and on the preparation of a market opportunity index for all of the city's forty-eight districts.

#### Market Opportunity Analysis

A market opportunity analysis was conducted to evaluate the relative demand potential in the forty-eight districts of S. Paulo. It was achieved by the elaboration of composite indexes from each district. The factors used in the preparation of these indexes were population, income, and car ownership. Since the data available were reported by districts with different geographic areas, in order to get a true picture of market opportunity, the first set of indexes were modified relative to the area of each district. Such a procedure gave a clear identification of the location of demand opportunity over space.

Both sets of indexes were classified by quartile intervals. Some very interesting changes in the ranking positions of the city's districts were revealed, when area was introduced, which turned out to be extremely consistent with the actual distribution of demand within S. Paulo. The modified composite index is the first input into the normative model for shopping center location and investment in the city.

### Normative Model

The conceptual framework developed in the earlier chapters stressed the fact that shopping centers have a close relationship with their surrounding areas. Therefore, the decision concerning investment and location must take into consideration costs and revenues as related to potential. Consequently, a normative model for the shopping center investment decision process was developed. This model used as its major constructs market opportunity in the shopping center's projected trade area, land site acquisition costs, and the basic objectives of the participants in the project--the investor and the retailer.

In order to make the normative model as realistic as possible, several tools and analytical techniques from other disciplines were used in the modeling process. Among these were cost accounting concepts, investment



techniques such as present value, and breakeven analysis. The application of these tools resulted in a comprehensive model which incorporates, simultaneously, the effect of different types of costs as well as the time dimension, both of which are extremely relevant in long-run investment decisions such as shopping centers.

Since retailing operates under uncertainty conditions, probabilistic dimensions were introduced into the model through the use of a tree diagram and application of sequential probabilities.

Finally, an operational framework for use of the model was suggested. It consists of a logical flow diagram which indicates the sequence and an overall guideline for applying the model in specific conditions. One of the model's major strengths is its ability to combine several analytical techniques which have been applied separately in other areas of business administration.

It should be mentioned that land acquisition cost was treated as a relevant variable because of the low degree of control which the investor has upon it.

#### Need for Future Research

Future studies in this area should be oriented to the expansion and deeper analysis of six particular points. (1) Market opportunity indexes for smaller geographic areas, such as census tracts or residential neighborhoods should be elaborated. (2) Modified composite indexes should be



prepared which use a larger number of descriptors such as retailing competition, household ownership, profession, education, number of home appliances per household, and so forth. (3) A study linking urban land and trade area theoretical concepts would be useful in assessing trends and pinpointing future retailing locational patterns in the GSPMA. (4) An evaluation should be made of the retailing system's effects on the quality of urban life. It should take into consideration the benefits and convenience which may be derived from specialized retailing facilities at decentralized locations. (5) The concepts and normative framework of this dissertation should be applied to develop public policies related to retailing location. The result could provide better locational patterns in growing communities, towns, and cities. (6) Finally, detailed studies should suggest shopping center planning techniques and architectural designs adapted to Brazilian environmental conditions.

#### Expansion of the Normative Model

The modeling process used in chapter 6 was oriented toward the utilization of a limited number of variables and constructs in order to enhance the linkages among the system's component variables and also to pinpoint their operational and conceptual relationships. Such an approach permitted us to create a model which is simple

in its internal structure; consistent with the objectives and goals of the shopping center participants; and of universal application because it reflects the operational characteristics of controlled retailing institutions. Furthermore, this model and its association with market opportunity analysis made it possible to relate cost and revenues to potential. Such a feature can be considered an original contribution of this dissertation in the area of retailing management.

If future research and effort will be applied to expanding this model, some additional refinements may be incorporated into its initial framework. Among these improvements, the following may be mentioned. (1) Retailing costs can be presented in a more detailed form, which would permit a finer evaluation of the retailer's requisite operational inputs. (2) The expected value of the rental streams may be corrected by means of a growth coefficient which would indicate increases in the rental values in future operational periods. (3) A larger number of probabilistic and related events may be introduced into the decision tree diagram in order to evaluate the impact of variables other than those already mentioned. (4) The investment decision making process could be subjected to other quantitative techniques such as heuristic programs or sensitivity analysis. Such analytical tools certainly would improve the results of any proposed shopping center project conducted within the scheme elaborated in this dissertation.

### Conclusions

The large scope of this dissertation, its multi-disciplinary approach, and the use of new analytical tools in its elaboration, creates the opportunity for future research in this area.

Hopefully, the concepts elaborated here may serve as a starting point for other scholarship, not only in Brazil, but elsewhere. Other countries may be able to use and adapt the outstanding features of U.S. retailing technology to their own environments. The field of retailing is ripe for the application of marketing theory as well as for the utilization of interdisciplinary contributions. Its challenge never ends, and the prospects for new and high level academic studies is and always will be present.

## BIBLIOGRAPHY



## BIBLIOGRAPHY: CHAPTER I

### Books

- Baranoff, Seymour. "Retailing as an Operating System." Theory in Marketing. Edited by Wroe Alderson, Reavis Cox, and Stanley Shapiro. Homewood, Ill.: Irwin, 1964.
- Berry, Brian. Geography of Market Centers and Retail Distribution. Englewood Cliffs, N. J.: Prentice-Hall, 1967.
- Community Builders Handbook. Washington, D. C.: Urban Land Institute, 1968.
- Gist, Ronald. Marketing and Society. New York: Holt, Rinehart, and Winston, 1971.
- Lima, Alberto de O. Shopping Centers--U.S.A. vs Brazil. Rio De Janeiro: Fundacao Getulio Vargas, 1971.
- Markin, Rom J. Jr. Retailing Management: A Systems Approach. New York: MacMillan Company, 1971.
- Meehan, Eugene J. Explanation in Social Science--A System Paradigm. Homewood, Ill.: Dorsey Press, 1968.
- Meissner, Frank. "Planned Shopping Centers." Management Perspectives in Retailing. Edited by Ronald R. Gist. New York: John Wiley and Sons, 1967.
- Rigby, Paul E. Conceptual Foundations of Business Research. New York: John Wiley and Sons, Inc., 1965.

### Periodicals

- Knoke, William. "Supermercados no Brazil." Revista de Administracao de Empresas, 3, no. 9 (October-December, 1963), 91.
- Smith, Paul E. "Prescription for a Successful Shopping Center." MSU Business Topics, 14 (Autumn 1966), 17.

Reports

Grupo Executivo do Grande S. Paulo. Gegram. S. Paulo:  
Governo do Estado, de S. Paulo, 1967.

Metro do Sao Paulo. Sistema Integrado de Transporte  
Rapido Coletivo em Sao Paulo. Vol. 1. S. Paulo:  
Companhia do Metropolitano de S. Paulo, 1968. P. 39.

Unpublished Material

Hamburger, Polia Lerner. "A Estrutura de Distribuicao  
(II)." (Mimeographed.)

## BIBLIOGRAPHY: CHAPTER II

Books

- Alderson, Wroe. Dynamic Marketing Behavior. Homewood, Ill.: Irwin, 1965.
- \_\_\_\_\_. Marketing Behavior and Executive Action. Homewood, Ill.: Irwin, 1957.
- \_\_\_\_\_. "The Analytical Framework of Marketing." Marketing Classics. Edited by Ben M. Enis and Keith K. Cox. Boston: Allyn and Bacon, 1969.
- Baker, Geoffrey and Funaro, Bruno. Shopping Center: Design and Operation. New York: Rinehold Publishing Company, 1951.
- Bartels, Robert. The Development of Marketing Thought. Homewood, Ill.: Irwin, 1962.
- Blumenfeld, Hans. "Criteria for Judging the Quality of the Urban Environment." The Quality of Urban Life. Edited by Henry J. Schmandt and Warner Bloomberg. Beverly Hills, Calif.: Sage, 1969, Vol. 3.
- Brand, Edward. Modern Supermarket Operation. New York: Fairchild Publications, 1963.
- Breese, Gerald. Urbanization in Newly Developing Countries. Englewood Cliffs, N. J.: Prentice-Hall, 1966.
- Burgess, Ernest and MacKenzie, Roderick D. The City. Chicago: University of Chicago Press, 1952.
- Chiara, Joseph de and Koppelman, Lee. Plan Design Criteria. New York: Van Nostrand-Reinhold, 1969.
- Community Builders Handbook. Washington, D. C.: Urban Land Institute, 1968.
- Engel, James F.; Kollat, David T.; and Blackwell, Roger D. Consumer Behavior. New York: Holt, Reinhart, and Winston, 1968.
- Eyrich, Gerald and Wentz, Walter. Marketing Theory and Application. New York: Harcourt, Brace, and World, 1970.



- Feinberg, Samuel. What Makes Shopping Centers Tick. New York: Fairchild Publications, 1960.
- Forrester, Jay. Urban Dynamics. Cambridge, Mass.: The M.I.T. Press, 1969.
- Gruen, Victor and Smith, Larry. Shopping Towns--U.S.A.--The Planning of Shopping Centers. New York: Reinhold Corp., 1960.
- Gist, Ronald. Marketing and Society: A Conceptual Introduction. New York: Holt, Rinehart, and Winston, 1971.
- \_\_\_\_\_. Retailing--Concepts and Decisions. New York: Wiley, 1968.
- Goldstucker, Jac. "Trading Areas." Science in Marketing. Edited by George Schwartz. New York: John Wiley and Sons, Inc., 1965.
- Hoover, Edgar M. "The Evolving Form of the Metropolis." Issues in Urban Economics. Edited by Harvey S. Perloff and Lowdon Wingo, Jr. Baltimore: Johns Hopkins Press, 1968.
- Hurd, Richard M. Principles of City Land Use. New York: The Record and Guide, 1903.
- Jonassen, Christensen T. Downtown Versus Suburban Shopping. Columbus, Ohio: Bureau of Business Research, Ohio State University Press, 1955.
- Jones, Colin S. Regional Shopping Centers: Their Location, Planning and Design. London: Business Books, 1969.
- Kelley, Eugene. Locating Controlled Regional Shopping Centers. Saugatuck, Connecticut: Eno Foundation for Highway Traffic Control, 1956.
- Kotler, Philip. Marketing Decision Making: A Model Building Approach. New York: Holt, Rinehart, and Winston, 1971.
- Lalonde, Bernard. "The Logistics of Retail Location." The Social Responsibilities of Marketing. Edited by William D. Stevens. Chicago: American Marketing Association, 1961.
- Lamford, Eric E. "The Evolving System of Cities in the USA." Issues in Urban Economics. Edited by Harvey S. Perloff and Lowdon Wingo, Jr. Baltimore: John Hopkins Press, 1968.

McNair, Malcolm. "Significant Trends in the Postwar Free Period." Competitive Distribution in a Free High-Level Economy and Its Implications for the University. Edited by A. B. Smith. Pittsburgh: University of Pittsburgh Press, 1958.

\_\_\_\_\_. "Improving the Dynamics of Retailing in an Expanding Economy." Exploration in Retailing. Edited by Stanley C. Hollander. East Lansing, Mich.: Bureau of Business and Economic Research, Michigan State University Press, 1959.

Meissner, Frank. "Planned Shopping Centers." Management Perspectives in Retailing. Edited by Ronald E. Gist. New York: Wiley, 1967.

Mumford, Lewis. The City in History. New York: Harcourt, 1961.

Mulvihill, Donald F. and Mulvihill, Ruth C. Geography of Marketing Growth. New York: Van Nostrand Reinhold, 1970.

Nelson, Richard L. The Selection of Retailing Location. New York: F. W. Dodge Corps., 1958.

Reilly, William J. The Law of Retailing Gravitation. New York: William J. Reilly, 1931.

Revzan, David A. Perspectives for Research in Marketing: Seven Essays. Berkeley: Institute of Business and Economic Research, University of California Press, 1965.

Schwartz, George. Development of Marketing Theory. Chicago: South Western, 1963.

Smith, Paul E. Shopping Centers Planning and Management. Chicago: National Retail Dry Goods Association, 1956.

Staudt, Thomas A. and Taylor, Donald A. A Managerial Introduction to Marketing. 2d ed. Englewood Cliffs, N.J.: Prentice-Hall, 1970.

Sturdivant, Frederick D. Managerial Analysis in Marketing. Glenview, Ill.: Scott, Foresman, 1970.

Thomlinson, Ralph. Urban Structure--The Social and Spatial Character of Cities. New York: Random House, 1970.

Weber, Max. The City. New York: The Free Press, 1958.

Periodicals

- Applebaum, William and Cohen, Saul. "The Dynamics of Store Trade Areas and Market Equilibrium." Annals of the Association of American Geographers, 51 (March, 1961), 73-101.
- \_\_\_\_\_. "Store Trading Areas in a Changing Market." Journal of Retailing, XXXVII (Fall, 1961), 14-25.
- \_\_\_\_\_. "Methods for Determining Store Trade Areas, Market Penetration and Potential Sales." Journal of Marketing Research, III (May, 1966), 127-141.
- \_\_\_\_\_. "Guidelines for a Store Location Strategy Study." Journal of Marketing, 30, no. 4 (October, 1966), 42-45.
- Ascher, Charles S. "What Are the Cities For?" Annals for the American Academy of Political and Social Science, CCLXII (1945), 3.
- Beem, Eugene R. "Retailing in the 1980's." Marketing Insights, 18 (November, 1968), 20-24.
- Bliss, Perry. "Schumpeter: The Big Disturbance in Retailing." Social Forces, 37 (October 1960), 76.
- Bucklin, Louis P. "Retail Strategy and the Classification of Consumer Goods." Journal of Marketing, 27, no. 1 (January, 1963), 50-55.
- Clark, Collin. "Urban Population Densities." Journal of the Royal Statistical Society, Series A, 114 (1951), 490-496.
- Cohen, Samuel S. and Applebaum, William. "Evaluating Store Sites and Determining Store Rents." Economic Geography, LI (January, 1960), 1-35.
- Converse, Paul D. "New Laws of Retailing Gravitation." Journal of Marketing, 14, no. 3 (October, 1949), 379-384.
- Cox, Reavis. "Consumer Convenience and the Retail Structure of Cities." Journal of Marketing, 24 (April, 1959), 355-362.
- Doody, Alton F. and Davidson, William R. "Next Revolution in Retailing." Harvard Business Review, 44 (May-June 1967), 4-16.

- Dressmann, A. C. R. "Patterns of Evolution in Retailing." Journal of Retailing, 44, no. 1 (Spring, 1968), 64-81.
- Drucker, Peter F. "Marketing and Economic Development." Journal of Marketing, 22 (January, 1958), 252.
- "Europe's New Shopping Centers." Business Abroad, October, 1968, pp. 22-28.
- Fisk, George. "The Replanning of Center City Shopping Districts." Journal of Retailing, 35, no. 2 (Summer, 1959), 80-84.
- Gottman, Jean. "Megalopolis or the Urbanization of the Northeastern Seaboard." Economic Geography, XXXIII (July, 1957), 189-200.
- Harris, Chauncy D. and Ullman, Edward L. "The Nature of the Cities." Annals of the American Academy of Political and Social Science, CCLXII (November, 1945), 7-17.
- Hellsworth, Dart T. "Changing Trends in Regional Shopping Centers." Journal of Retailing, 34, no. 4 (Winter, 1958), 177-184.
- Hinderman, Charles H. "Impact of Shopping Centers in Downtown Cincinnati." Journal of Retailing, 34, no. 4 (1958), 185-188.
- Hollander, Stanley. "The Wheel of Retailing." Journal of Marketing, 25, no. 1 (July, 1960), 37-42.
- Holton, Richard. "Marketing Structure and Economic Development." The Quarterly Journal of Economics, 67 (August, 1953), 361.
- Huff, David L. "Defining and Estimating a Trading Area." Journal of Marketing, XXVIII (July, 1964), 27-28.
- Lewis, Richard J. and Erickson, Leo. "Marketing Functions and Marketing Systems: A Synthesis." Journal of Marketing, July, 1969, pp. 10-19.
- Lalonde, Bernard. "New Frontiers in Retailing Location." Current Business Topics, 1963, p. 8.
- Mertes, John E. "The Shopping Center--A New Trend in Retailing." Journal of Marketing, 13 (January, 1949), 372-378.

- Mertes, John E. "Structure Theory for Site Analysis." Journal of Retailing, 40, no. 2 (Summer, 1964), 19-30.
- "Definition of Marketing Terms." National Marketing Review, 1 (Fall 1935), 166.
- Nystrom, Paul H. "Downtown Shopping Revival." Journal of Retailing, 34, no. 3 (Fall, 1958), 129-132.
- Schwartz, George. "Laws of Retail Gravitation: An Appraisal." University of Washington Business Review, XXII (October, 1966), 60-71.
- Smith, Paul E. and Kelley, Eugene J. "Competing Retail Systems: The Shopping Center and the Central Business District." Journal of Retailing, 34 (Spring 1960), 11-18.
- Stedman, Gordon. "The Rise of Shopping Centers." Journal of Retailing, 31 (Spring, 1955), 11-26.
- . "Impact of Shopping Center Locally and Downtown." Journal of Retailing, 32 (Spring, 1956), 25-39.
- Stonier, Charles E. "Off-Street Parking to Attract Downtown Shoppers." Journal of Retailing, 36 (Fall, 1960), 145-149.
- Thorelli, Hans B. "Ecology in Marketing." Southern Journal of Business, 2 (October, 1967), 19-25.
- Weiss, Ernest. "What Will Retailing Be Line in 1975?" Advertising Age, 37 (March 7, 1966), 119-122.

### Reports

- American Marketing Association. Marketing Definitions: A Glossary of Marketing Terms. Chicago: AMA, 1960.
- Berry, Brian J. Commercial Structure and Commercial Blight. Research Paper no. 85. Chicago: Department of Geography, University of Chicago, 1965.
- Gross, Walter. "Retailing in the Seventies: A Projection of Current Trends." Baylor Business Studies, February-March-April, 1969, pp. 19-31.
- Hoyt, Homer. The Structure and Growth of Residential Neighborhoods in American Cities. Washington, D. C.: U.S., F.H.A., 1939.

- Kaylin, S. O., ed. Executives Edition. Chain Store Age, April, 1966, p. E8.
- Larson, G. E. and Poteat, M. N. "Selling in the United States Market." Domestic Commerce Series, No. 29 (New Series). Washington, D. C.: U. S. Department of Commerce, Government Printing Office, 1951.
- Lazer, William. CELS-80: Consumers Environment and Life Styles of the 1980's. Benton Harbor, Michigan: Whirlpool Corporation, 1971.
- "Parking Requirements for Shopping Centers." Technical Bulletin No. 53. Washington, D. C.: Urban Land Institute, 1964.

#### Monographs

- Cox, Eli P. and Erickson, Leo G. Retail Decentralization. Bureau of Business and Economic Research. East Lansing, Michigan: Michigan State University, 1967.
- Lalonde, Bernard. Differentials in Super Market Drawing Power. Marketing and Transportation Paper, No. 11. Bureau of Business and Economic Research. East Lansing, Michigan: Michigan State University, 1962.
- Simmons, James. The Changing Pattern of Retail Location, Chicago. Research Paper No. 92. Chicago: University of Chicago Press, 1964.

#### Proceedings

- Doody, Alton F. "Historical Pattern of Marketing Innovations." Emerging Concepts in Marketing. Edited by William Decker. Proceedings of the Winter Conference of AMA. Chicago: AMA, December, 1962. Pp. 245-256.
- Duncan, Delbert J. "Responses of Selected Retail Institutions to Their Changing Environment." Marketing and Economic Development. Edited by Peter Bennet. Chicago: American Marketing Association, 1965.
- Eisenpreis, Alfred. "An Evaluation of Current Store Location Research." New Directions in Marketing. Edited by Frederick Webeter. Chicago: American Marketing Association, 1965.

- Huff, David L. "A Probabilistic Analysis of Consumer Space Behavior." Emerging Concepts in Marketing. Edited by William S. Decker. Chicago: American Marketing Association, 1963.
- Lalonde, Bernard "The Logistics of Retail Location." The Social Responsibilities of Marketing. Edited by William D. Stevens. Chicago: American Marketing Association, 1964.
- Plotkin, Manuel D. "The Use of Credit Accounts and Computers in Determining Store Trading Areas." New Directions in Marketing. Edited by Frederick E. Webster. Chicago: American Marketing Association, 1965.
- Rostow, Walt W. "The Concepts of a National Market and Its Economies--Growth Implications." Proceedings of the Fall Conference of the American Marketing Association. Chicago: AMA, 1965.

#### Unpublished Materials

- Emmet, Persis R. "Development and Location of Shopping Centers in the San Francisco Bay Area, California." Unpublished Ph.D. dissertation, Stanford University, 1961.
- McGarritty, Richard A. "An Application of Space Transformation in Evaluating the Urban Location Pattern of a Multi-Unit Retail Firm." Unpublished Ph.D. dissertation, Northwestern University, 1969.
- Sallins, Daniel. "Household Location Patterns in Selected American Metropolitan Areas." Unpublished Ph.D. dissertation, Syracuse University, 1970.

## BIBLIOGRAPHY: CHAPTER III

Books

- Dalrymple, Douglas J. and Thompson, Donald L. Retailing: An Economic View. New York: The Free Press, 1969.
- Davidson, William R. and Doody, Alton. Retailing Management. New York: Ronald Press, 1966.
- Furtado, Celso. The Economic Growth of Brazil--A Survey from Colonial to Modern Times. Berkeley, Calif.: University of California Press, 1968.
- \_\_\_\_\_. Obstacles to Development in Latin America. Garden City, New York: Doubleday, 1969.
- Harris, Walter. "Urban Quality in the Context of the Developing Society." Quality of Urban Life. Vol. 3. Edited by Henry Schmandt and Warner Bloomberg. Beverly Hills, California: Sage, 1969.
- Hicks, John R. Essays in World Economies. Oxford: Clarendon Press, 1959.
- Langenbach, Jurgen R. A Estruturacao do Grande Sao Paulo. Rio de Janeiro, 1971.
- Linton, Ralf. The Study of Man. New York: Appleton, Century, and Crofts, 1936.
- Nystrom, Paul H. The Economies of Retailing. New York: Ronald Press, 1934.
- Polyani, Karl. The Great Transformation. Boston, Mass.: Beacon Press, 1957.
- Rogers, Everett M. and Shoemaker, Floyd. Communication of Innovations: A Cross-Cultural Approach. New York: The Free Press, 1971.
- Schwartz, George. Science in Marketing. New York: John Wiley, 1964.



Periodicals

- Bennet, Peter D. "Retailing Revolution in Chile." Journal of Marketing, 33 (July, 1966), 45.
- Cundiff, Edward. "Concepts in Comparative Retailing." Journal of Marketing, 28, no. 1 (January, 1965), 59-63.
- Douglas, Susan P. "Patterns and Parallels of Marketing Structures." MSU Business Topics, 19 (February), 54-58.
- Erickson, Leo G. "Analyzing Brazilian Consumer Markets." MSU Business Topics, 2 (Fall 1963), 726-736.
- Hollander, Stanley. "The International Storekeeper." MSU Business Topics, 17 (Spring, 1969), 13-23.
- Lima, Alberto Filho. "Shopping Center como Novos Sistemas de Operacao Varejista." Revista de Administracao de Empresas, 9, no. 2 (April-June, 1969), 37-49.
- Miller, Willard F. "Some Market Structure Considerations in Economic Development." Journal of Farm Economies, 41
- Moyer, Reed. "The Structure of Markets in Developing Economies." MSU Business Topics, 12
- Taylor, Donald A. "Retailing in Brazil." Journal of Marketing, 24, no. 3 (July, 1959), 54-58.

Newspapers

- O Estado de Sao Paulo. 6 August, 1965.
- \_\_\_\_\_. 6 October, 1971.
- \_\_\_\_\_. 28 November, 1971.
- Jornal do Jumbo. September, 1971.
- Supermercado Moderno. July, 1971.

Proceedings

- Taylor, Donald. "Marketing in Brazil." Marketing and Economic Development. Edited by Peter D. Bennet. Chicago: American Marketing Association, 1965.

Reports

Instituto Brasileiro de Geographia e Estatistica. VII Recenseamento Geral. Rio de Janeiro, 1970.

Prefeitura Municipal de Sao Paulo. Plano Urbanistico Basico. Vols. 1, 2, and 4. Sao Paulo, 1968.

## BIBLIOGRAPHY: CHAPTER V

Books

Alderson, Wroe. Marketing Behavior and Executive Action.  
Homewood, Ill.: Irwin, 1957.

Hamburg, Morris. Statistical Analysis for Decision Making.  
New York: Harcourt Brace, 1970.

Markin, Rom. Retailing Management: A Systems Approach.  
New York: MacMillan Co., 1971.

Periodicals

Conjuntura Economica. 25, no. 8 (171).

Unpublished Materials

Instituto Brasileiro do Geographia e Estatistica.  
"Aspecto do Municipio de Sao Paulo." 1968.

## BIBLIOGRAPHY: CHAPTER VI

Books

- Bierman, Harold and Smidt, Seymour. The Capital Budgeting Decision. New York: The MacMillan Co., 1960.
- Buzzel, Robert; Cox, Donald; and Brown, Rex. Marketing Research and Information Systems--Text and Cases. New York: McGraw-Hill, 1968.
- Kotler, Philip. Marketing Management Analysis, Planning and Control. 2d ed. Englewood Cliffs, N. J.: Prentice-Hall, 1971.
- Schlaifer, Robert. Analyses of Decisions Under Uncertainty. New York: McGraw-Hill, 1969.
- Van Horne, James C. Financial Management and Policy. 2d ed. Englewood Cliffs, N.J.: Prentice-Hall, 1971.

Periodicals

- Ritland, Ross W. "New Methods of Estimating and Forecasting Retail Sales." Journal of Retailing, 39, no. 3 (Fall, 1963), 1-9.

MICHIGAN STATE UNIVERSITY LIBRARIES



3 1293 03056 4573