

URBAN MARKETPLACE: AN EVALUATION OF THE SOCIAL AND RETAIL ENVIRONMENT

by

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1988

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URBAN MARKETPLACE: AN EVALUATION OF THE SOCIAL AND RETAIL ENVIRONMENT

CHAPTER ONE: INTRODUCTION

Urban marketplaces are popular public gathering places found in most major American cities. They provide settings for communal social life and are important commercial links within downtown areas. Urban designers have played a vital role in the design of such places and their contributions have typically generated new images of the city and revitalized decaying downtown areas. During the 1970's and 1980's, design strategies have attempted to enhance the spatial character of marketplaces and providing a strong setting for social interaction. This study focuses on two urban marketplaces in Denver, Colorado in the attempt to clarify the need for, and value of, designing good urban spaces and for an active public life.

The Nature of the Urban Marketplace

The urban marketplace is an open space or building where people gather to buy and sell goods and services. They are often referred to as urban shopping centers. The marketplace can also be viewed as "a public event that draws people together regularly throughout the year to participate in a necessary and pleasurable activity" (Crowhurst Lennard & Lennard, 1984). Nadine Beddington (1982) defines a shopping center as "planned shopping complex under one central management, leasing units to individual retailers, with a degree of control by management who are

responsible overall for the center". The urban marketplace is generally located at or near the central business district and is usually integrated with mutually supporting land uses and activities.

Marketplaces have long served as centers of community life and bring individuals into contact with one another. The marketplace is no longer merely a physical place where retail sales occur, but has become an integral part of the social structure of most urban areas. People everywhere are drawn to marketplaces in order to seek out and purchase merchandise while experiencing a pleasant surrounding. The act of shopping is a primary human activity which almost every individual in our society takes part.

Modern development strategies such as the festival marketplace concept will help expand the role of the marketplace in the changing urban fabric. According to the Urban Land Institute (ULI), "festival marketplace retailing is typically centered around a theme, with the idea that shopping is fun and entertaining" (Cigliano & Witherspoon, 1985). The festival marketplace interior will be the focus of this study.

Contemporary urban marketplaces, like their suburban counterparts, are distinguished by environments controlled through design restrictions and leasing arrangements (Gillette, 1985). The social needs of the shopper should affect not only the physical design of the marketplace, but the retail components as well. Factors contributing to the retail mixture of the marketplace include, patterns of age distribution, lifestyle changes and economic conditions (Spink, 1985). The social environment along with an appropriate and appealing retail design are

two design components contributing to a usable and economically successful marketplace.

Scope of the Problem

The relationship between the social behavior of people in urban spaces such as the marketplace, and the environmental features of the place are complex. The intent of this study is based on the premise that urban designers must meet the needs of people through functionally responsive physical design and ultimately creating a positive atmosphere for people to interact socially. The understanding of how people use the marketplace and how the physical design contributes to the way they use the space enables the urban designer to grasp the essence and complexity of the marketplace design.

Another important facet of marketplace design to consider is the spatial response to existing market factors such as demographics and the marketing strategies which influenced the types of retail elements used. In addition, the physical design quality of the marketplace has an impact on the users' perception of the spatial aesthetic which in turn effects store patronage and overall use. The designer must then respond to the existing market factors which eventually influence which retail elements to use.

This study examines two urban marketplaces, The Shops at Tabor Center and The Tivoli Denver, both located in Denver, Colorado. This study focuses on the interior portion of these two marketplaces and evaluates their designs in terms of two major factors: (1) a positive environment for social interaction; and (2) the implementation of retail elements offering or producing a high degree of appeal to the users.

Specifically, this study will examine the manner in which the marketplace functions as a social place as well as the users preference and use of the physical retail elements.

The specific framework for evaluation is as follows:

(1) A positive environment for social interaction:

- a. The location of the marketplace relative to large concentrations of people
- b. The relationship of the entrances to the marketplace from major circulation flows
- c. The location, amount and use of seating
- d. The effects of sales, food, sunlight, and water to the space

(2) The implementation of appealing retail elements producing a high degree of appeal to the users:

- a. The importance of the decor and layout to the user
- b. The recognition of physical design elements which restrict or enhance the use of the space

Justification for the Study

As human beings, we spend much time indoors. The basic human need of socially interacting with others whether indoors or outdoors, together with the environment within which people interact, should be carefully considered when designing spaces for people. Environmental designers and specifically urban designers, are faced with design challenges requiring an understanding of how spaces work socially and in turn resulting in viable, usable urban spaces.

Although there is an extensive body of literature and research dealing with the design aspects of urban spaces, particularly outdoor

spaces, the need arises for research responding to the social uses of interior spaces such as the urban marketplace. The design and creation of functional and lively spaces offers environmental designers the opportunity to improve the quality of life in our urban centers.

Contextual Overview of the Study Area

Denver was chosen as the study area because it has become a city of exceptional opportunity for the implementation of festive marketplaces due to its population growth, an appealing quality of life and a significant number of upper income households. As the population hub of a five state region, (see Figure 1.1), Denver is not only a year round recreation destination but is also the financial, marketing, and distribution center for a vast area of the west (Rouse, 1983). The primary industries in Denver include tourism, energy-related and governmental and serves as the focal point for business, industry and the arts for the five state region.

According to Fletcher (1987), Denver's city population is 502,000, the metro population is 1,700,000 and the downtown employment 114,000. The seven counties in the Denver metropolitan area accounts for more than half of the population of the entire state of Colorado (see Figure 1.2). Retailing in Denver is scattered throughout the metro area of which a limited amount are located near the central business district.

The two marketplaces examined in this study, The Shops at Tabor Center and The Tivoli Denver, (see Figure 1.3), have been selected because of their contrasting qualities in terms of location size, and design. The two study sites have similarities with respect to their retail function, retail concept, use of the atrium building type, and

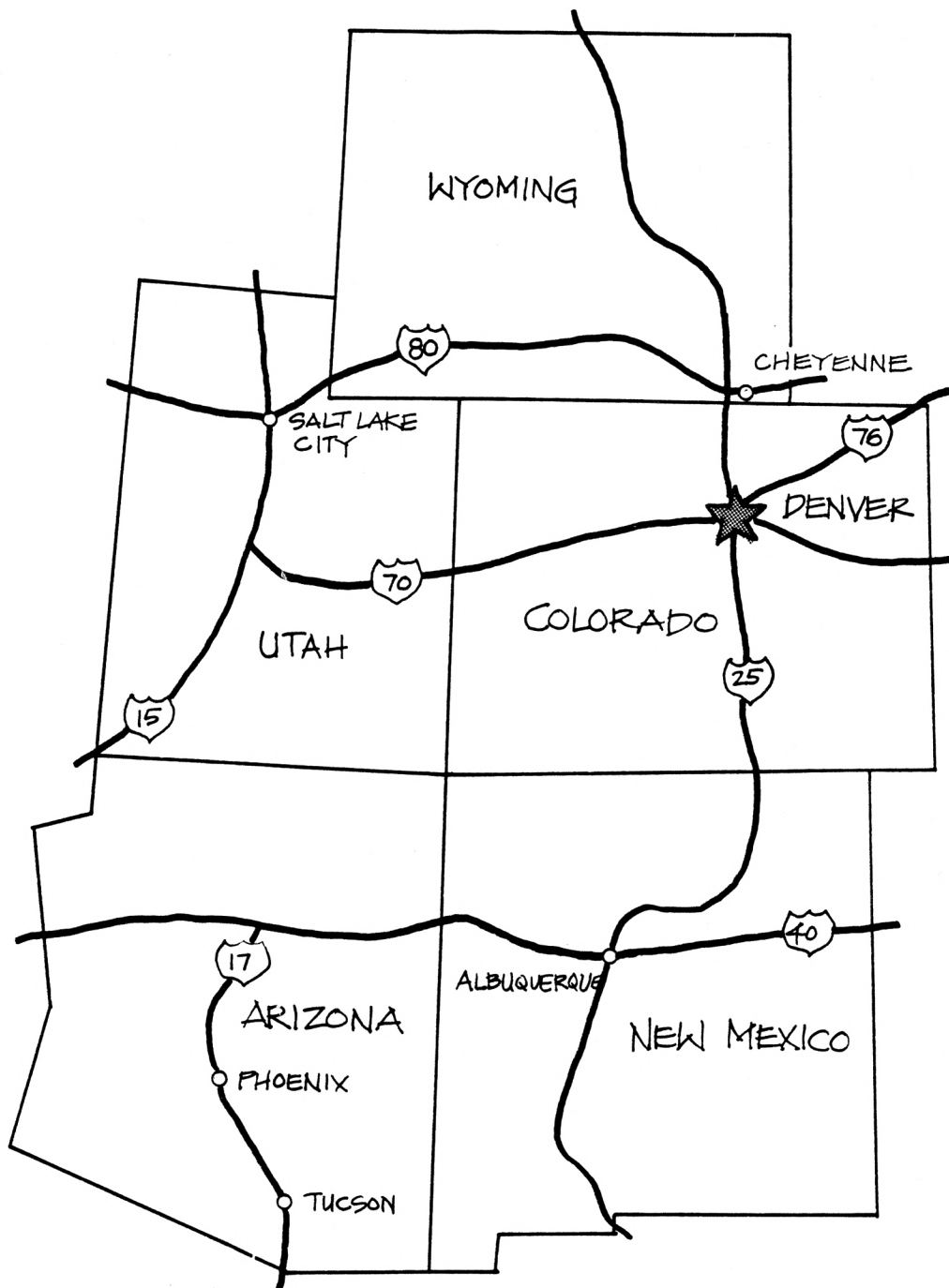


FIGURE 1.1 - Map of the Regional Context

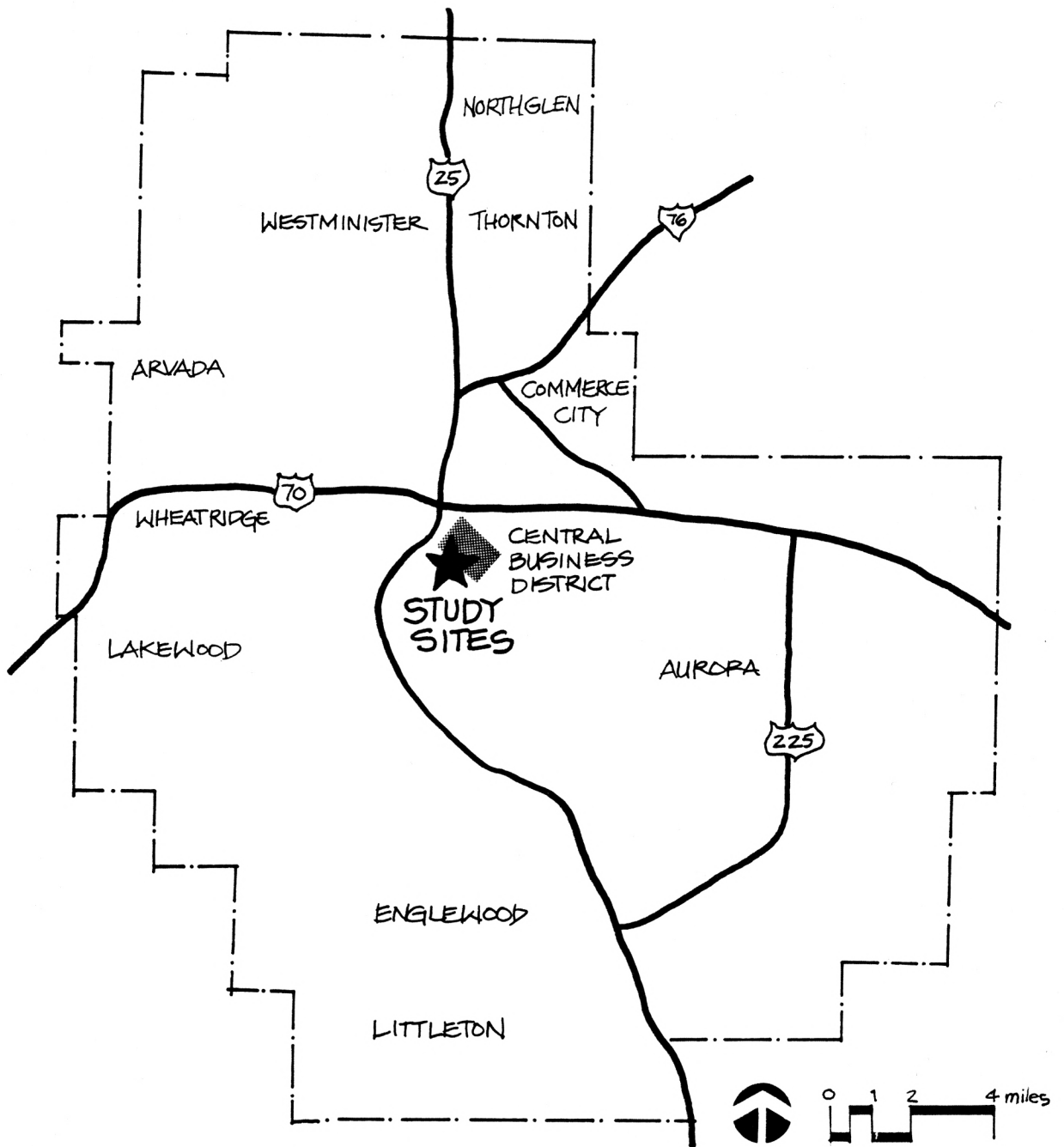


FIGURE 1.2 -Map of the Denver Metropolitan Area

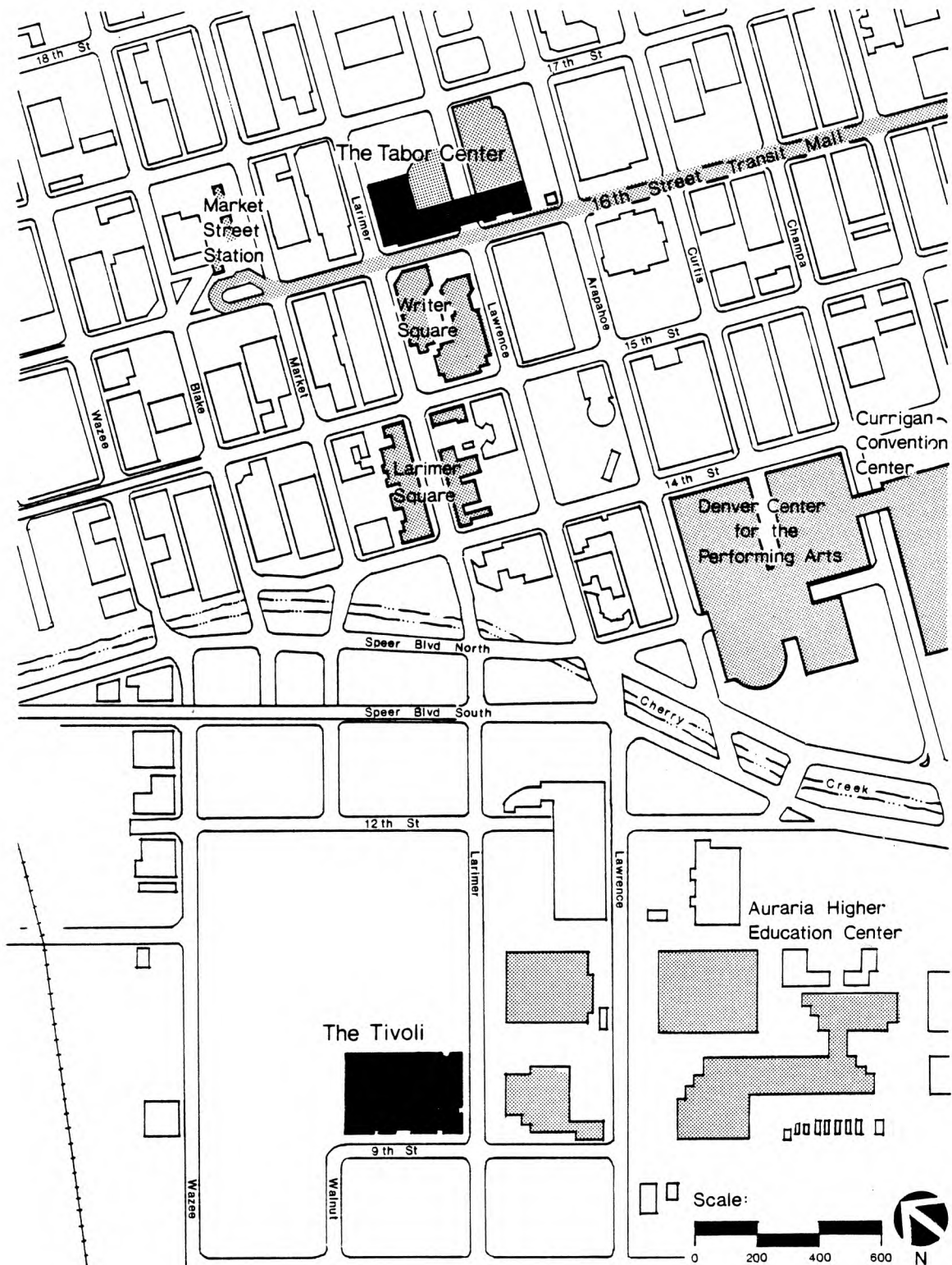


FIGURE 1.3 -Map of the Study Sites

urban location. The rationale for the selection of Denver as a target city is based on the existence of a positive climate for preservation development, a revitalized downtown area, and the diversity of marketplaces in the area (O'Mara, 1983).

Overview of The Shops at Tabor Center Site

The history of the present day site of the Tabor Center and its adjacencies, is one of grand landmarks, famous Coloradoans, and major events contributing to the existing character of downtown Denver. Several blocks adjacent to the block where the Tabor Center is located, have a historic legacy originating back to the early 1850's.

Lieutenant Governor Horace Tabor, entrepreneur and silver tycoon, purchased the 1600 block of Larimer Street in 1879 in order to build what was then "the finest office building in Denver" (Noel, 1981). The Tabor Block (large nineteenth century buildings were called blocks) was a five-story, grey Illinois limestone building built at a cost of \$300,000 and completed in 1880. The building contained Denver's first elevator and attracted the Colorado Telephone Company and the First National Bank of Denver as tenants. The intersection of 16th Street and Larimer became the busiest in town (Noel, 1981).

The collapse of silver mining caused Horace Tabor to lose the Tabor Block in 1896. The prestige and grandeur faded from the once grand offices of the Tabor Block and by 1930, it was vacant or housed low rent tenants. By the 1960's, a fire destroyed part of the structure and was cheaply renovated which led to undesirable tenants. In 1973, the Tabor Building was demolished and replaced by a parking lot (Noel, 1981).

The Skyline Urban Renewal Project began in 1968 and included the two blocks where the Tabor Center is presently located (see Figure 1.4). In 1978 the idea for a mixed-use development on the site was conceived by The Williams Realty Company and The Rouse Company largely in response to the proposed 16th Street Transit Mall. The 16th Street Mall was completed in 1982 and serves as a mile long pedestrian and transit mall patterned after the successful Nicollet Mall in Minneapolis, Minnesota (Smart, 1985). The proposed Tabor Center was to contain 120,000 sq. ft. of retail space (The Shops at Tabor Center), a 420 room hotel operated by Westin Hotels, two office towers, and a 1900 car underground parking structure. The estimated cost of the Tabor Center complex was \$300 million. The Shops at Tabor Center and parking structure opened in October of 1984, 100 years after Horace Tabor completed the grand Tabor Block. The hotel and first office tower opened in January of 1985 (Smart, 1985). During the design development of the Tabor Center, the architects and designers were faced with an unusual set of physical design and construction challenges.

The first problem was to integrate the two blocks physically even though they were divided by a state highway (Lawrence Street). Air rights were negotiated over the highway enabling a sky bridge to connect the upper levels of retail shops. This bridge became "Bridge Market", a festive pushcart market.

The second, and perhaps more important design challenge facing the designers was the projects compatibility with surrounding uses and historical context. The adjacent buildings and uses included the Daniels and Fisher Tower, the 16th Street Mall, Skyline Park/Park

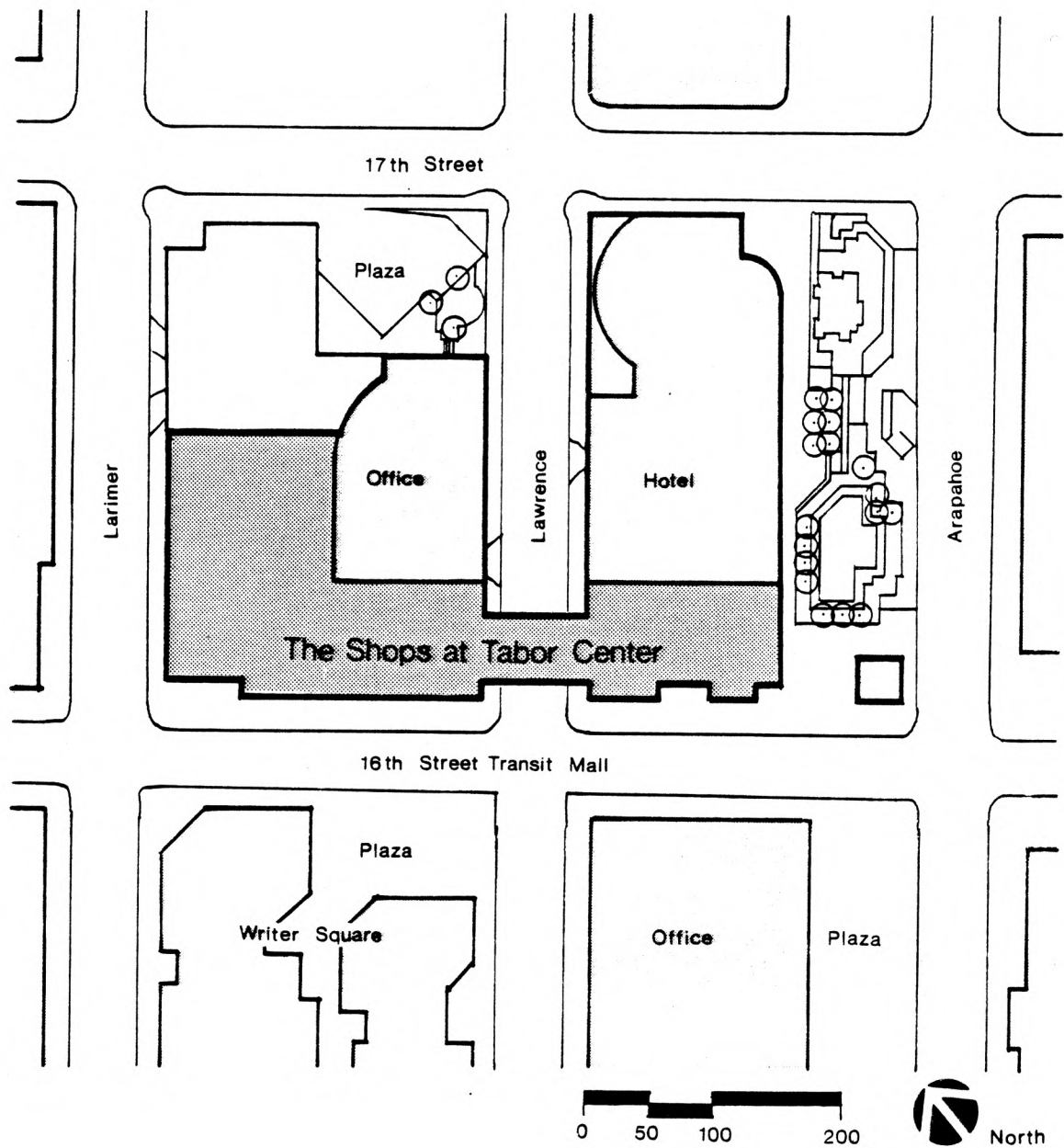


FIGURE 1.4 -Site Plan of the Shops at Tabor Center

Central, Writers Square, and Larimer Square. The Daniels and Fisher Tower, located on the corner of Arapahoe and 16th Street was built of brick and terra cotta in 1909 and was inspired by the Campanile in the Piazza San Marcos in Venice. Sensitivity to this historic monument dictated the use of warm-toned masonry and glass for the exterior of the Tabor Center.

Overview of The Tivoli Denver Site

The Tivoli Denver is located west of Denver's central business district south of Speer Boulevard (see Figure 1.5). Commercial development has generally occurred north of Speer Boulevard establishing this area as the commercial heart of the city (Seydel, 1987). Directly adjacent to the Tivoli Denver is the 169 acre Auraria Higher Education Center. Recreation facilities such as tennis courts and ball fields as well as 700 parking places surround the site on three sides. Warehouses and an abandoned railroad yard are located within a three block area to the north west. The Speer Boulevard and Lawrence Street viaducts are major collectors bringing people to the downtown area.

The history of the Tivoli Denver can be traced back to 1864 when Moritz Sigi, a german immigrant, opened The Colorado Brewery on the present study site. When Sigi died in 1874, his family continued to operate the brewery until Max Melsheimer purchased the brewery in 1879 (Noel, 1981). Melsheimer enlarged the building and renamed it The Milwaukee Brewery. He built the seven story tower complete with a mansard roof which still dominates the Tivoli complex.

The Tivoli Denver was actually composed of many different buildings including a power plant, bottling house, service garage, and several

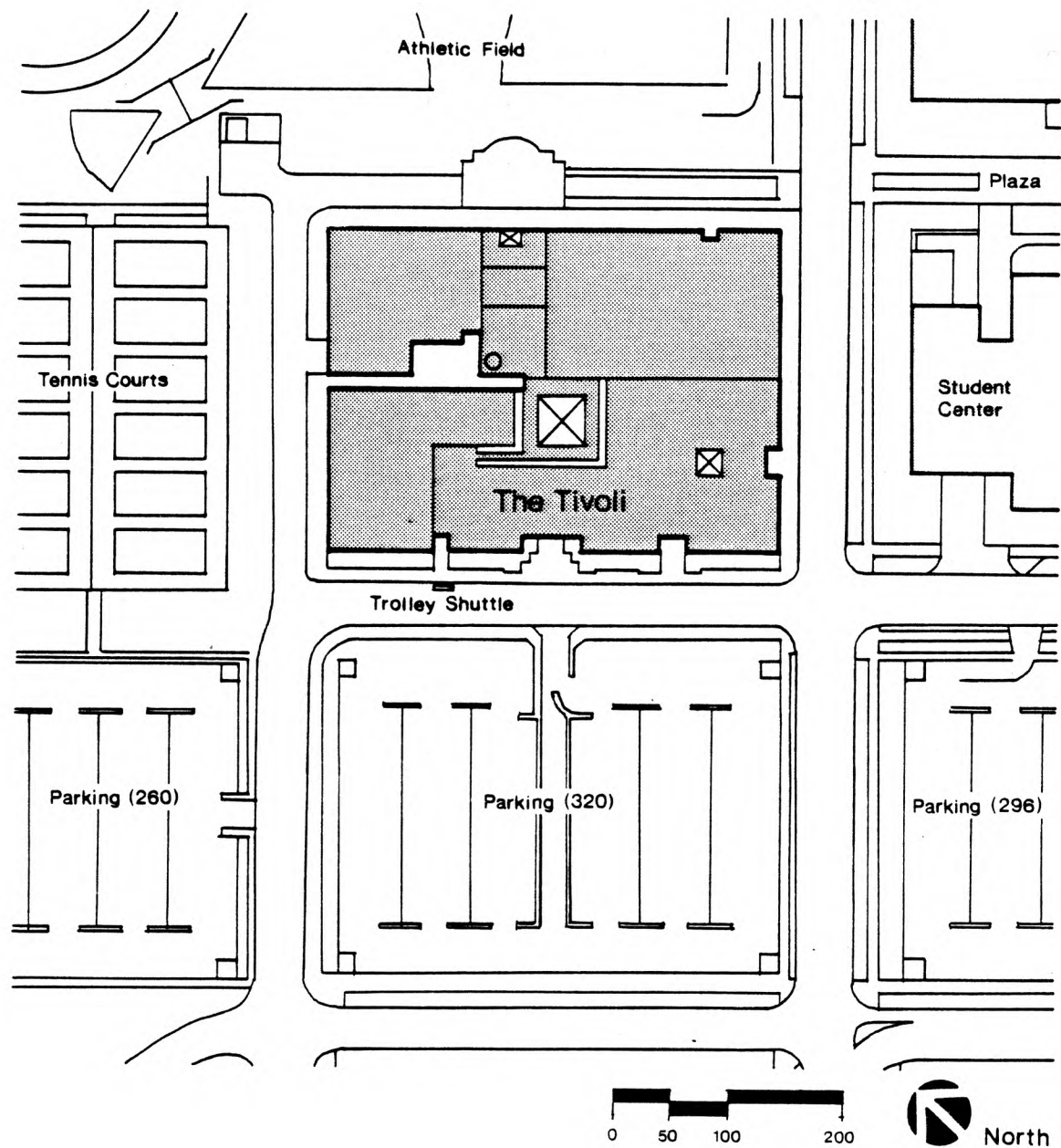


FIGURE 1.5 -Site Plan of the Tivoli Denver

storage and warehouse buildings. The corner of Larimer Street and 10th housed a tavern named Melsheimer's Corner Store and featured a brewery bar and restaurant. In 1882, Melsheimer built the Turnhalle Opera House between the tower and the corner store (Noel, 1981). The Turnhalle had a balcony which overlooked a maple floor and stage under a 75 foot high ceiling and seating for 500. From the 1880's to the 1940's, people gathered to see musical programs, plays, lectures, and other cultural events. The opera house still exist has been restored and will be re-opened at a later date. A number of these buildings such as the corner store and opera house have been restored and will have the same use as they once did.

According to Noel (1981), Melsheimer defaulted on a loan to John Good, another german immigrant and local banker, who took over the brewery operation and renamed it the Tivoli after the renowned Tivoli Gardens in Copenhagen, Denmark. The Tivoli merged with William Burghardt's Union Brewery Co. in 1901. During the Prohibition era, The brewery produced a low alcohol cereal beverage to keep in business.

The brewery continued operating within the Good family until 1964 when it was sold to two brothers, Carl and Joseph Occhiato. In the spring of 1965, a flood destroyed a good portion of the interior. Another disaster hit when the Teamsters Union called a strike which lasted for two years. The Occhiato brothers encountered dwindling sales which forced the Tivoli brewery to close on April 25, 1969 (Noel,1981).

In 1973, the Tivoli was declared a historic landmark and was listed in the National Register of Historic Places. Many real estate developers submitted proposals for the redevelopment of the Tivoli site

ranging from restoring the brewery operation to creating an amusement park (Noel, 1981). In 1985, The Trizec Corporation purchased the buildings and adapted the use to include restaurants, nightclubs and a new retail addition. In 1986, The Hahn Company of San Diego, California purchased the Tivoli Denver and the nearby Larimer Square area.

The next chapter reviews the literature pertaining to the relationship between the urban marketplace and the two evaluative factors. Chapter Three explores the range of methodologies used for postoccupancy and behavior studies in environmental design as well as describing the method used to conduct this study. Chapter Four will present the observations, analysis and findings originating from the study. The fifth and final chapter describes the conclusions and outcomes with specific implications related to the urban marketplace.

CHAPTER TWO: REVIEW OF THE LITERATURE

The literature pertaining to urban open space is widespread and diverse. For the purposes of this study, the background information will cover topics dealing with the marketplace as an open space element, the environment-behavior research related to open space design, and the marketing and retail issues associated with marketplace design.

Historical Overview of the Urban Marketplace

In order to fully understand the nature of the urban marketplace, the following review reveals the evolution of the marketplace as an open space element.

The history of the western urban marketplace begins with the bazaars of old Cairo and the ancient Greek market or agora. The Greek market maintained a multiplicity of communal functions by not only emphasizing trade, but creating an opportunity for exchanging information and social interaction (Kaplan et. al., 1985). The beginnings of banking, insurance and law can be traced to the marketplace, as well as the first stagings of the performing arts (Rouse Company, 1986). The medieval market was controlled by a body of commercial law which governed the retail activities and lead to the first example of a centralized management concept (Gosling & Maitland, 1976). The industrial revolution impacted all aspects of urban life as stated by August

Heckscher's (1977) description of the activities found in a typical European marketplace:

The marketplace became in the European cities an open space coequal with those of the city hall and the cathedral; and it was, like them, a scene of animation, a point of meetings, a stage for the dreams and entertainments of civic life. (p.338).

According to Beddington (1982), in the nineteenth century, mass demand due to population growth and concentration led to the development of the department store. Bednar (1986) believes that shortly after World War II, the rapid growth of suburban shopping centers resulted in many large complexes of stores in open air landscaped malls. This new concept presented certain advantages to the shopper namely less walking and experiencing a pleasant, weather-controlled environment.

Situated in an urban setting, the contemporary marketplace can support similar social functions and satisfy similar human needs. Gillette (1985) emphasizes the evolution of planned shopping environments resulted from the notion of improving social and civic life and not just selling merchandise. The advent of the controlled shopping environment to some extent reassures the user that the city is not frightening, dangerous, or dirty, but simply creates a pleasant urban atmosphere for people to interact socially.

Urban Open Space and Sociability Research

Studies over the last decade dealing with urban open spaces such as parks, plazas, playgrounds, and pedestrian malls demonstrate the crucial importance of open space use (Francis, 1987). Francis argues that open space research has continued to expand the definition of open space and he classifies open space as "accessible" and "inaccessible" rather than

"open" or "closed". Carr & Lynch (1981), Francis (1987), and Lynch (1981) believe that accessibility is what makes open space, open. Mugerauer (1986) and Bednar (1986) disagree and identify the space inside large buildings which contain open interior space so large as to come very close to being open spaces.

The atrium building has emerged as one of the most useful and versatile urban design element due to incentive zoning granting taller building heights by creating a public plaza amenity (Bednar, 1986; Stephens, 1978; Whyte, 1980b). In 1985, the architectural firm, Kaplan/McLaughlin/Diaz (KMD), undertook a research project designed to address the issues of enhancing the pedestrian environment through the design of atrium buildings. KMD summarized their conclusions around two major points:

- (1) "Indoor public spaces which we have termed agoras, if properly designed, can be a great deal more useful than outdoor parks and plazas, particularly in extreme climates, either warm or cold" (p. 2).
- (2) "Agoras can provide a new type of landmark for urban centers. They compensate for the loss of older landmark buildings which are so important to the character of the urban environment" (p. 2).

Their research involved the analysis of past and present trends in tall building design, the evaluation of public attitudes toward a variety of indoor and outdoor spaces, and the investigation of attitudes among professionals involved with the planning, management, and evaluation of public spaces.

The observational research conducted by William Whyte (1980b) on the use of downtown plazas in New York City, is regarded as one of the most comprehensive environment-behavior studies on urban open space and is

the key source for the sociability criteria in this study. In The Social Life of Small Urban Spaces, Whyte states his major argument in that the best-used parks or plazas are sociable spaces (p. 17).

According to Whyte, the most important factor contributing to the design of a sociable space is the location of the space. The best locations are those directly related to the street or to nearby retail elements. The transition point between the street and the plaza is the key to the success or failure of the space (Whyte, 1980b; Heckscher, 1977). Once people are attracted to a space, certain secondary needs should be met such as seating, sunlight, protection, food and water in order to promote sociability.

Whyte (1980b) suggests the principle needs of a successful interior space includes: (1) a sufficient amount of seating; (2) the presence of food; (3) the significance of nearby retail elements; and (4) toilet facilities. Whyte (1980a) also argues that interior spaces with retail components create an important problem in that they can dilute the adjacent streetlife.

Questions regarding the nature of public spaces and the effects of "social filtering" such as security guards have been raised by several researchers (Francis, 1987; Stephens, 1978; Whyte, 1980b). Social filters result in a screening effect to allow certain users in while excluding undesirable ones (Francis, 1987). Stephens (1978) conducted an observational study on the CitiCorp Marketplace in New York in which she argues that the marketplace "owes its popularity in large to what it keeps out as well as what it offers within" and the class stratification due to social filtering characterizes many retail enterprises (p. 55).

Analytical research dealing with sociability and urban open space reveals relationships in the form of themes or criteria for comparing open space. Jacobs (1985) developed three major themes for evaluating the relationship between open space and historic buildings. These themes are: (1) a positive image of place; (2) orientation for people; and (3) the introduction of natural elements. Jacobs concluded that "public open space is crucial to the habitability of our cities" and "historic buildings can become a viable part of successful urban places" (p.165-6).

Hernandez (1986) focused on sociability as the major factor influencing outdoor urban open space much the same way Whyte (1980) argues for sociability as the most important design consideration. Sociability in terms of open space design is defined as the ability to bring people together informally, while generating human interaction and strengthening one's perception of place (Hernandez, 1986). The social interchange of information and ideas are basic human needs. Hernandez (1986) suggests that an individual defines and recognizes the amount of interaction which can occur in a place. He states that "people define their own position, or role within the interaction" and "recognize the relationship of others with whom they interact" (p.22).

Review of Research Related to Marketplace Retailing

Background information supporting the second major criterion centers on the marketing factors contributing to marketplace design. Whyte (1980), believes retailing attracts ones attention, therefore fifty percent of the ground floor frontage (of urban open spaces), should be

devoted to retail uses. Whyte does not expand on this notion, however determining how and why people patronize certain marketplaces has been a topic explored by many retailing and marketing researchers.

Urban marketplaces in the 1980's have been focused toward "recreational shopping" as opposed to "convenience or economical shopping" (Bellenger & Korgaonkar, 1980). Recreational shoppers are those who enjoy shopping as a leisure-time activity. Some interesting correlations made by Bellenger and Korgaonkar suggest that recreational shoppers usually shop at closed shopping malls (83%) and they did not feel store decor was important (65%). Understanding why people are motivated to shop at a particular place along with other marketing factors is critical in determining the retail needs of the intended users.

The retail mix can be separated into four main categories: service, convenience, comparison, and specialty retailing (Cigliano & Witherspoon, 1985). Service retail features personal and business services such as banks, eating and drinking establishments, and dry cleaners. Service elements target captive shoppers, or those shoppers primarily within five minutes from the marketplace. Convenience retail is dependent on location and requires strong anchors (major or important stores), supported by smaller shops selling books or food. The third category, comparison retail, focuses on goods purchased in a discriminating fashion such as clothing, jewelry or appliances. Destination shoppers within twenty minutes from the marketplace tend to patronize comparison retail elements. The final category, specialty retail, refers to distinctive one-of-a-kind merchandise presented in a

unique way such as fine luggage, electronic gadgets or theme restaurants. Specialty retail elements are patronized by shoppers from a wide regional area. Often times the market strategy will overlap these categories to produce a focused retail concept for the particular market situation.

The transformation of historic settings into places for contemporary urban events is the basis for the adaptive use concept in marketplace design. The Rouse Company, one of the leading developers of urban marketplaces, has linked large malls with urban redevelopment elements (usually historic in nature) to establish a new form of lively and festive places for social and recreational use (Gillette, 1985). Festival marketplace retailing emphasizes architectural design and detailing, visual openness, entertainment and a large number of small shops (Cigliano & Witherspoon, 1985).

Developers like, The Rouse Company and architects Benjamin and Jane Thompson argue that the festival markets succeed because they satisfy a series of basic human needs and offer a secure atmosphere (Campbell, 1984). Jane Thompson (1984) feels the design of buildings surrounded by historic structures requires a great deal of insight towards contextual issues facing the designer. The solution arises not from a particular style used but rather from scale and fabric. Scale refers to the intimate relationship between the street and the pedestrian while fabric is composed of physical connections through the use of materials and details. Another point Thompson illustrates is the importance of adaptive use to respond to the present day needs rather than the needs of the past. The challenge remains in creating a revitalized spirit and

timeless ambience. Reviewing the pertinent literature on the marketplace as an open space element, the environment-behavior research related to open space design and the marketing and retailing issues associated with marketplace design serves as a basis for clarifying the evaluative criteria. Using this review as a base, the next chapter describes the series of methods used to collect data.

CHAPTER THREE: METHODOLOGY

In order to verify and test the evaluative criteria of this study, three methods common in environment-behavior research were used. The three methods are: contextual analysis, direct observation and focused interviews. The use of these methods hopefully will generate mutually supporting data during different phases of the research process.

Overview of the Contextual Analysis Method

The contextual analysis method is used to describe and analyze the study sites in order to better understand the design elements used and various significant spatial relationships relative to the immediate surroundings. Traditional contextual analysis is usually conducted during pre-design research and is defined as a "research activity which focuses on the existing, imminent and potential conditions on and around a project site" (White, 1983, p. 6). According to White's procedure, the identification of critical issues impacting the site is the first step in the contextual analysis process. Several researchers agree that site location is the most critical issue in marketplace design, (Beddington, 1982; Claus & Hardwick, 1972; McKeever & Griffin, 1977) and was the key issue addressed in the contextual analysis.

Claus and Hardwick (1972), identify two important factors in site location for retail development as trade area and trapping point. A trade area refers to the area from which a site's customers are

generated. Trade area analysis is a very specialized and complicated process conducted by marketing professionals. However for the purposes of this study, understanding the implications of such studies can help define from where the marketplace draws its users. McKeever and Griffin (1977) suggest that the drawing power within the trade area "the strongest influence will be exerted closest to the site, with influence diminishing gradually as the distance decreases" (p. 25). Specific information needed for identifying the trade area include the extent of the trade area, population density and demographics, and the immediate proximity to large concentrations of people and other retail uses.

The trapping point is "that place at which the obstacles to the entrance to a particular site are minimized and the inducements to enter are maximized" (Claus & Hardwick, 1972, p. 143). The marketplace trapping point, specifically, the entry and exit points must be maximized to allow for access to parking areas, public transportation, and most important, pedestrian circulation. The specific information needed for determining the trapping point includes the vehicular traffic volume to the sites, and pedestrian access through the entrances.

Contextual analysis is important to this study because the analysis of each site's exterior surroundings will aid in discovering the relationships between the marketplace and the larger urban context. The use of contextual analysis will help researchers in exploring the background of the site, the surrounding land uses, and the development background. This analysis was conducted during the preliminary research phase of the study in order to serve as base information for the direct observation and focused interview portion of the methodology.

Contextual Data Collection

Data collection began with contacting the management offices of each site and inquiries about the availability of any background information pertinent to the study. Population density and demographic information in the form of a marketing analysis was gathered from this source. Permission to conduct the research on each study site was also discussed with the property management. The Tivoli Denver allowed permission to interview the users of the site within the interior of the site; However, the management representative at The Shops at Tabor Center would not permit interviewing within the interior due to corporate policies. The exterior frontage of the Tabor Center along the 16th Street Mall was located on a public right-of-way and was selected as an alternative place to conduct interviewing. Architectural floor plans for the Tivoli Denver were acquired from the management offices while the floor plans for the Shops at Tabor Center were obtained from the architect.

The city planning office provided scaled street maps with building layouts delineating the two sites and the central business district. The site reconnaissance was conducted May 18 through May 27, 1988. The street maps were photocopied and used to delineate general vehicular traffic patterns, major pedestrian routes, and general land uses. The range of the site reconnaissance encompassed an area within a three block radius of each study site. Photographs were used to record observations and notations were made directly on the photocopied maps as well as the use of annotated diagrams for recording observed information.

Preliminary observations were taken inside each marketplace in order to determine the parameters on which to base the forthcoming direct

observation method. Information noted during preliminary observations consisted of rough pedestrian counts entering and exiting at each entrance over a four hour time period. Two hand held counters recorded the hourly data for a typical weekend day between the hours of 10:00 a.m. to 2:00 p.m. This time period was chosen because it was the day and time of heaviest use. The limits of the study area or study zone were also determined at this time.

The major limitation of the contextual analysis method is in the relative usefulness when determining the marketplace's trade area. One can only infer on the immediate trade area (nearby concentrations of people) rather than make concrete determinations of actual areas. The application of this method, can only produce generalized data because of the time restrictions and level of detail needed. There is however, a need to understand the basic contextual issues associated with evaluating the two study sites.

Overview of the Direct Observation Method

The second method, direct observation, was used as a primary tool to gather data within the interior of each marketplace. Zeisel (1981) defines direct observation as a behavioral research method which "generates data about peoples activities and the relationships needed to sustain them; about regularities of behavior; about expected uses, new uses, and misuses of a place; and about behavioral opportunities and constraints that environments have" (p.111). Several open space researchers (Francis, 1984; Marcus & Wischemann, 1987; Whyte, 1980b, Whyte, 1981) have used observational methods for user assessment. The method used for this study is an adaptation of Whyte's observational

techniques because it is a widely recognized approach to understanding the relationship of people to the physical environment in public spaces. Using direct observation will help clarify the sub-categories listed under the two major criteria by documenting the observed social interactions within the interior of the marketplace as well as the factors contributing to the selection of appealing retail elements.

As an observer in the marketplace, the researcher chose to be a marginal participant which, according to Zeisel (1981), is an observer "who adopts a vantage point of a commonly accepted and unimportant participant" (p.118). This vantage point will allow for a casual blending among the users of the marketplace. The type of information collected from the observations included pedestrian circulation patterns, type of activities, activity areas and times of use, amount and type of seating, and access. The information was documented in the form of detailed notations and behavior mapping on pre-printed site plans and floor plans. Behavior mapping was the primary instrument utilized to record observations and can be defined as "a tool social scientists have developed to study people's activities in a systematic way" (Davies, Love & Ziegler, 1981, p. 26). Behavior mapping is useful to record sequences of behavior where people have a choice among several activities.

The types of activities encountered at the marketplace were determined during the preliminary observation phase. These activities were chosen because they represented the most predominantly observed activities that could be recorded on the pre-printed site plans within the given time. They are also activities which are specifically

important to the social use of the indoor urban marketplace. The four major activities can be defined as follows:

Sitting: The act of sitting on a chair, bench, ledge or steps

Standing at an edge: The act of remaining stationary near an edge perhaps engaged in conversation or waiting

Window Shopping: The act of stopping and looking in a store window

Other Activities: These activities include eating, conversation, people-watching, reading, lingering and moving.

These activities were identified during preliminary observation and represent the four main activities within the marketplace. Other behavioral data gathered included the grouping of individuals and their gender.

Direct Observation Data Collection

After the preliminary observations were conducted, the floor plans for each study site were reduced and simplified graphically (see Figures 3.1 and 3.2). The three primary floors of each site containing the most heavily used space designated as the study zones were identified and delineated on the base maps. In order to keep the size and scope of the study zones manageable, the Tabor site had to be limited to the three floors between Larimer and Lawrence Street because of its larger size. Major facilities and amenities were also located and delineated on the maps and include: facility type (ie: store, fast food, nightclub etc.), entrances, escalators, elevators, stairs, seating, railings and fountains. When the base plans were completed, they were photocopied to be used as field recording maps.

During the preliminary observation phase, it was noticed that the heaviest use occurred during 11:30 a.m. and 1:00 p.m. on a typical

The Tabor Center

DAY:

TIME:

WEATHER:

KEY:

- INDIVIDUAL MAN
- x INDIVIDUAL WOMAN
- (•x) GROUP OF TWO
- (x•x) GROUP OF THREE +

OBSERVATIONS:

First Level Plan

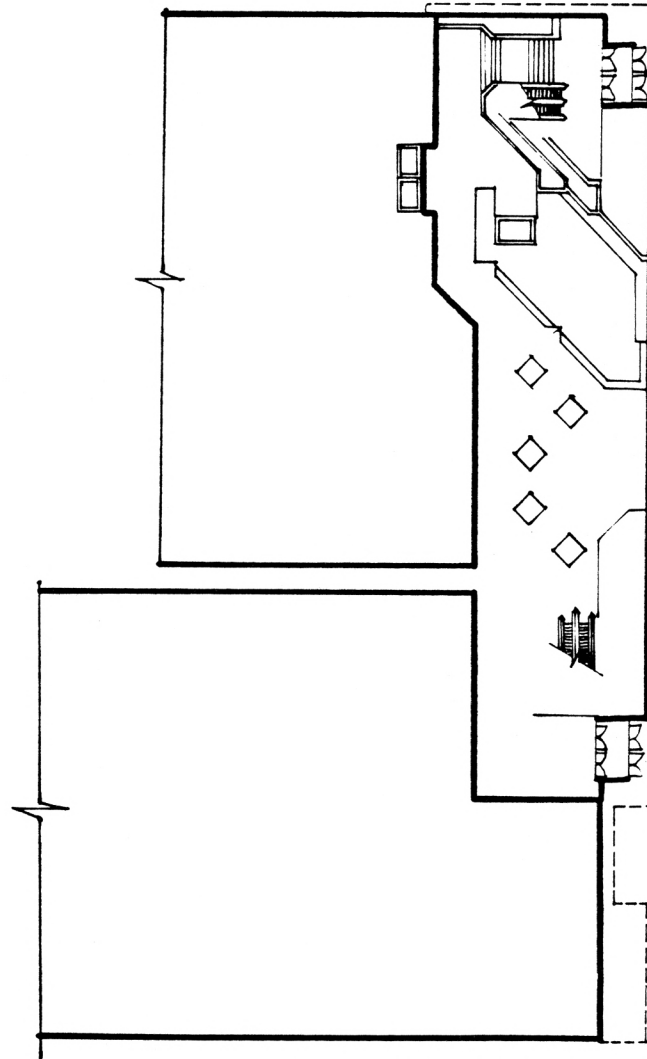
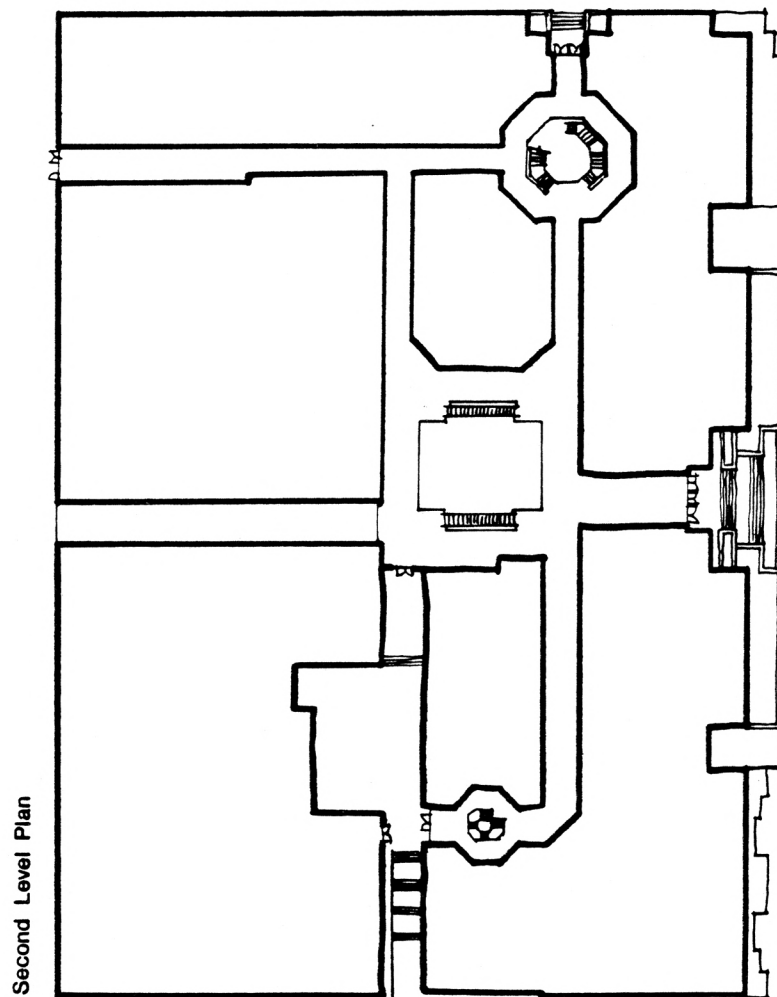


FIGURE 3.1 - Typical Field Recording Map for the Tabor Site



The Tivoli

DAY:

TIME:

WEATHER:

KEY:

- INDIVIDUAL MAN
- x INDIVIDUAL WOMAN
- ⊙ GROUP OF TWO
- ⊗ GROUP OF THREE +

OBSERVATIONS:

FIGURE 3.2 - Typical Field Recording Map for the Tivoli Site

weekend. This time range became the target time period for observing behavior. A five to ten minute observation period began at half-hour intervals beginning at 11:30 a.m. in which activity observations were recorded for each floor. As a single observer, the researcher recorded the activities for one floor per typical weekend day per time range. For example, on Saturday May 30th, 1988, observations were recorded on the third floor of the Tivoli Denver each half-hour, for five to ten minutes per observation time, starting at 11:30 a.m and ending at 1:00 p.m. Each site required three separate visits to obtain the required data. Recording was undertaken during a three week period beginning May 30th through June 14th, 1988.

The location and type of activity (sitting, standing at an edge, window shopping and other activities), and group type (individual, group of two, and group of three or more) were recorded using assigned symbols. Essentially, this method attempted to record a single instance occurring typically during the five to ten minute observation period. The observational vantage points were determined prior to the actual observations to allow for clear views to most of the study zones.

Several limitations of the behavior mapping approach should be addressed. First, the mapping was used to record whether a user was participating in a designated activity, however certain variables such as the duration time of the activity per participant, walking velocity, the complexity of multiple activities, as well as the observer-estimated age and gender of the participant were ignored. This was due largely to the size and complexity of the study zones with respect to a single observer. Another limitation has to do with the application of this method for

larger areas with a greater volume of participants resulting in the need for more trained observers. A final weakness in the method is the overall time range factor being limited to only the heaviest use time. If the time range was expanded to cover a greater period or span, the data patterns for an entire day could be analyzed instead of just the heaviest use time. It is important to point out that direct observation through behavior mapping, focuses primarily on behavior and does not address the user's perception and attitudes of the site. The use of this method in conjunction with focused interviews provides the researcher with a wider range of attitudes and activities within the marketplace.

Overview of the Focused Interview Method

The third method, focused interviews, occurred after the direct observation phase. A focused interview systematically asks questions "to find out what people think, feel, do, know, believe and expect" (Zeisel, 1981, p. 137). Interviewing by using a prepared questionnaire (see Appendix A) will provide information on how the marketplace functions from the users' point of view. The use of both observation and interviewing is justified based on the assumption of what people do, and what they say they do, are typically two different things. Focused interviews provide useful data in understanding how people react to a situation and allow the respondents to become participants in the research. This phase of the research will strengthen the data gathered through direct observation and helps clarify and examine the two major criteria: (1) a positive environment for social interaction and (2) the implementation of retail elements producing a high degree of appeal to the users.

Past research efforts (Jansen, 1982; KMD,1985; Tauber, 1972), have utilized the focused interview method for open space research. Jansen (1982), argues that people who fill out questionnaires feel researchers do not grant the right for people to think for themselves resulting in data which is in a convenient and manageable form for the researcher but is lacking in validity and true content. Jansen took a qualitative approach to analyze the phenomenon of shopping using tape recordings of focused conversations with the users of the marketplace. Tauber (1972), used in-depth personal interviews "to recognize the distinction between the activities of shopping, buying, consuming and to understand the behavioral determinants of each" (p. 49). KMD (1985) used the interview questionnaire to survey the users of public pedestrian spaces, both indoor and outdoor. The interview questionnaire used in this study is modeled after the KMD survey because of the simple approach allowing for immediate results, the thoroughness of the questions asked, and the adaptability to the urban marketplace context.

Data Collection Using the Interview Questionnaire

An interview questionnaire was used to discover the attitudes of the marketplace users within the interior setting (see Appendix A). The interview questionnaire focused questions towards peoples attitudes and perceptions of the space such as retail preference and usage, as well as how they use the space socially. The questionnaire was submitted and approved by the Kansas State University, College of Architecture and Design Subcommittee for the Protection of Human Subjects prior to testing. The interview questionnaire contained pre-coded responses and several open-ended questions. If in fact a respondent wished to express

his or herself beyond the question asked, then the unsolicited response was noted on the questionnaire form.

The conditions for interviewing the users of the two test sites were standardized in terms of time of day and corresponding locations in order to minimize bias and maximize accuracy. The sampling strategy was designed to reflect characteristics of the marketplace users and the downtown Denver pedestrian population and therefore will not be a true random sampling. The number of respondents was limited to 100 responses per test site for ease of statistical analysis. The interviews were designed to have a response duration time of less than five minutes so as not to fatigue the respondent. The actual response duration was ten to fifteen minutes per interview.

The location of interviewing was different on each site because of the restriction imposed on administering questionnaires inside the Shops at Tabor Center. An alternative location near the main entrances on the 16th Street Transit Mall was used in order to interview the users as they left the Tabor Center. Interviewing was conducted at area near an information/security kiosk located near the main entrance of the Tivoli Denver. Both interviewing locations provided a constant flow of people who had just experienced the site. The interviews were administered during May 28th through August 15th, 1988 and both weekday and weekend samples were taken.

The questionnaire contained questions based on both nominal and ordinal coding. A example of a sample question using nominal coding is:

- (Q) How often do you come here?
- _____ (4) Almost every working day
 - _____ (3) Once or twice a week
 - _____ (2) A couple of times a year

An example of a sample question using ordinal coding is:

(Q) Would you ever do any of the following activities here?

	DT	T	U	F	DF
Enjoy the sun	—	—	—	—	—
Watch people	—	—	—	—	—
Watch entertainers	—	—	—	—	—
Grab a bite to eat	—	—	—	—	—
Come in out of the wind or rain	—	—	—	—	—
Sit and relax	—	—	—	—	—

[**Coding:** DT=Definitely True (5); T=True (4); U=Uncertain (3);
F=False (2); DF=Definitely False (1)]

The scores were based on a numerical scale with the most positive response having the highest value. The responses were tabulated and inputted as a data base using REFLEX database software and an IBM compatible personal computer. The methods for analyzing the data are discussed in the next chapter.

CHAPTER FOUR: ANALYSIS

In order to fully examine the manner in which the urban marketplace functions as a sociable place as well as explore the users preference and use of the physical retail elements, an analysis of the data is needed. In Chapter One, the specific criteria for evaluation were introduced as follows:

(1) A positive environment for social interaction:

- a. The location of the marketplace relative to large concentrations of people
- b. The relationship of the entrances to the marketplace from major circulation flows
- c. The location, amount and use of seating
- d. The effects of sales, food, sunlight, and water to the space

(2) The implementation of appealing retail elements producing a high degree of appeal to the users:

- a. The importance of the decor and layout to the user
- b. The recognition of physical design elements which restrict or enhance the use of the space

The first criterion, **a positive environment for social interaction**, is closely related to Whyte's (1980b) recommendations for a successful social space. The first sub-criterion, **the location of the marketplace relative to large concentrations of people**, will be supported by the contextual analysis specifically, the trade area analysis. The next sub-criterion, **the relationship of the entrances to the marketplace from**

major circulation flows, will also be supported by the contextual analysis particularly with a detailed analysis of the entrances. A very important sub-criterion, **the location, amount and use of seating**, will be strengthened by examining sitting activities through behavior mapping. Other activities closely associated with seating will be also be analyzed. The final sub-criterion, **the effects of sales, food, sunlight and water to the space**, will be probed through a combination of contextual analysis, behavior mapping and questionnaire data analysis.

The next theme or criterion, **the implementation of appealing retail elements producing a high degree of appeal to the users**, suggests the evaluation of specific elements contributing to a well designed marketplace. The first sub-criterion, **the importance of the decor and layout to the user**, reflects the users' perception of the aesthetics of the space and addresses the question of legibility and is supported by analyzing the questionnaire data especially questions relating to the respondents attitudes towards the aesthetic quality of the place. The last sub-criterion, **the recognition of physical design elements which restrict or enhance the use of the space**, will be reinforced by contextual analysis, behavior mapping analysis, specifically the evaluation of the activities such as standing near edges, window shopping and store preference.

This analysis chapter has been organized and separated into larger sections which closely parallel the specific research method used. The first section deals with the contextual analysis and gives an overview of the off-site impacts within the urban context and detailing the existing physical conditions within each study site. The next section

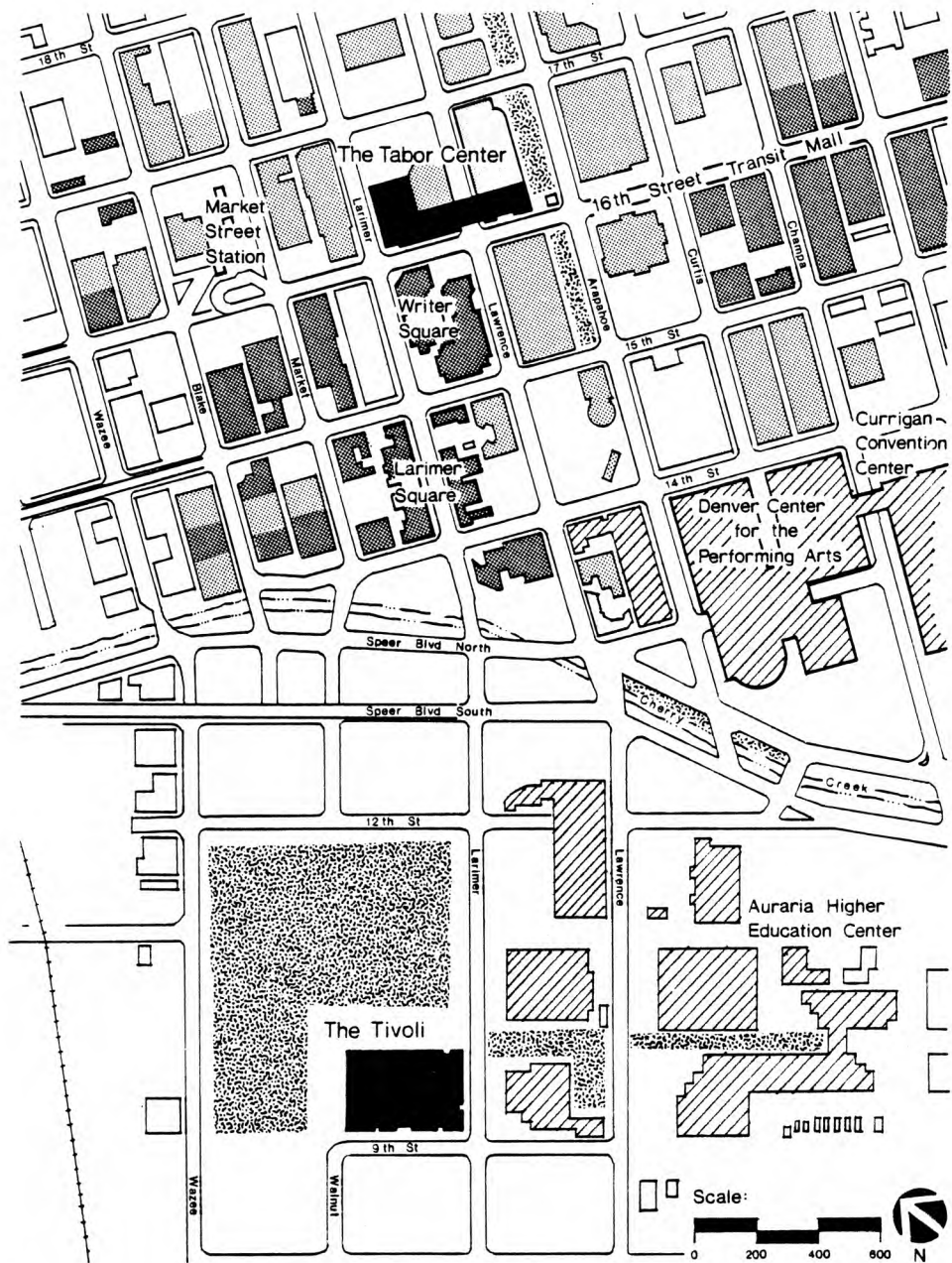
considers the observed data as they help to clarify marketplace behavior, focusing particularly to the behavior maps. The final section studies the questionnaire data in hopes of supporting the analysis of the observed data as well as contextual data.

CONTEXTUAL ANALYSIS

It is necessary to understand the context of the study sites through a systematic analytical technique. Contextual analysis helps clarify the relationship between the study sites and their urban surroundings. The following analysis will overview the study sites with respect to location and access, identify sources of large concentrations of people which effect the marketplace, compare the physical layouts of each study site, and evaluate the use of the entrances to each site.

Analytical Overview of the Study Sites

As previously mentioned in Chapter One, the study sites are located near or within the central business district (CBD) in Denver (see Figure 4.1). Vehicular access to both sites is provided via expressway exits at Lawrence and Larimer Streets from Interstate 25. Another freeway ramp giving immediate access to downtown Denver is Speer Boulevard. Speer flows directly to the study sites from the upper income areas of Cherry Creek to the southwest and acts as a strong physical barrier separating the surrounding areas near each study site. The Tabor site is better accessed by public transportation than the Tivoli because of its proximity to the 16th Street Transit Mall. The 16th Street Mall is a 13-block pedestrian mall terminating at each end with a major transfer station such as the Market Street Station.



KEY TO LAND USES

	Study Sites
	Retail
	Office
	Residential / Hotel
	Cultural / Institutional
	Plazas / Open Space

FIGURE 4.1 – Map of the Study Areas

The distance between the two study sites is slightly over one-half mile or seven blocks. Despite being relatively close to each other, the Tabor site is located closer to the core of the CBD. Directly to the north of the Tabor site runs 17th Street, Denver's financial district. The study area within the Tabor Center complex runs parallel to the 16th Street Mall between Larimer and Arapahoe Streets. The Tivoli site, however, is located on the other side of Speer and somewhat isolated in an open area. Areas adjacent to the Tivoli site are dominated by the Auraria Higher Education Center. The visibility of the Tivoli site as one enters the downtown area from the Lawrence Street ramp is good to moderate because traffic crosses through the campus instead of adjacent to the Tivoli.

Access and location are interrelated yet separate factors contributing to the trapping point. According to McKeever and Griffin (1977), the marketplace site must be accessed conveniently through free flowing traffic and located so it is unyielding in its economic position. When comparing the two sites in terms of vehicular access, they both are near major collectors and expressways however the Tabor site is closer to the destinations points of the vehicles due to the site being closer to the CBD. The Tivoli appears to have moderate exposure but no true complementary destination points. The trapping point can be examined from the larger urban perspective and specifically as it relates to each study site. In order to fully understand the trapping point, pedestrian access needs to be explored through an analysis of the sources of large concentrations of people and how the entrances are used.

Sources of Large Concentrations of People

Probably the most important aspect of a good marketplace location is how well the site responds to the target users. As Whyte (1980b) concludes, people attract other people therefore the urban space should be situated near large concentrations of people. With respect to the urban marketplace, the proximity to large concentrations of people creates an immediate source of potential shoppers. In an interview with Ms. T.R. Robinson of the Tivoli-Denver Management office on May 28, 1987, she states that the target market for the Tivoli is higher income suburbanites. She further stipulates that 32 percent of the users are tourists.

The downtown Denver employment population is 114,000 (Fletcher, 1987) of which most is centered around the CBD. According to a marketing analysis conducted by the Rouse Company (1983), the Denver-Boulder metropolitan area accounts for more than 465,000 households earning above \$35,000 annually. According to the study, the Denver area has experienced a 90 percent increase in employment in the finance, insurance, and real estate industries and a 101 percent increase in employment in the tourism/convention industry since 1970. With these figures in mind, the Denver-Boulder trade area represents a 1985 market potential of more than \$2 billion in sales.

The Tabor site is exposed to more people because it is within the CBD. The direct relationship to the 16th Street Mall offers the Tabor site the greatest generator of people because according to Fletcher (1987), the mall draws 90,000 people daily and transports 50,000 shuttle bus riders per day. The Tabor site is surrounded by office buildings

and other major retail spaces. There is office space in every block within a two block radius of the Tabor site. Major retail facilities within two blocks of the site include Writer Square and Larimer Square which attract shoppers also. The combination of these facilities with the Shops at Tabor Center create a mutually supporting shopping district in terms of drawing shoppers. The Tabor Center (see Figure 1.3) is a mixed-use development with a 430 room Westin hotel and a 32 story office tower located within the same complex (Gaskie, 1985). Other major facilities within a three block radius from the Tabor site which provide potential users are the Denver Center for the Performing Arts and the Currigan Convention Center.

The Tivoli site has one major source of people, the Auraria campus (see Figure 1.4). The campus is comprised of three institutions and has a daytime student population of 9,500. The student center is located across Larimer from the southwest corner of the Tivoli building and has a strong connection to the campus mall/plaza. The Cherry Creek Greenway is an important recreational link serving the campus as a bikeway. Other recreational areas adjacent to the Tivoli site include athletic fields and tennis courts but these uses provide little in terms of generating potential users. The Tivoli does operate a free shuttle service to and from the Tabor Center in order to draw people from the downtown area. The importance of site location relative to large concentrations of people can be used to predict the performance of the marketplace.

Analysis of the Entrances

Data collected through counting weekend pedestrian flow as people

entered and exited the two study sites was documented in tabular form (see Table 4.1 and 4.2). People were counted entering and exiting the sites at each entrance into the space for a one hour period totaling four hours between, 11:00 a.m. and 2:00 p.m. on a typical weekend. This period was chosen because it represented a typical range of pedestrian activity and flow as people entered and exited the sites. Also, the four hour period was a manageable range in terms of collecting the data which helped to narrow a specific time range for the interior behavior observations. This method of data collection represents an approximation of the total number of people visiting the site and does not reflect the total number of people on site, since the number of people within the study areas were unknown prior to counting and all of the entrances were not counted simultaneously. The purpose of this data is to obtain a general understanding of which entrances are most heavily used and recognizing the overall aggregate pedestrian flow.

The overall findings indicate a greater total aggregate inflow into the Tabor Center (4537 people) leading to an overall increase or volume of people for the four-hour time period when compared to the Tivoli site (1177 people). The total aggregate inflow for both sites becomes relatively constant after the noon hour with the greatest volume of people occurring between 1:00 p.m. and 2:00 p.m. on both sites. The net difference between inflow and outflow reflects an approximation of the number of people within each spaces. The Tabor site had a net difference of 2543 which is three times greater than the net difference of 717 for the Tivoli site also suggesting more usage. The Tabor study site has six entrances compared to five for the Tivoli. The average

ENTRANCE	10 to 11 A.M.		11 to 12 P.M.		12 to 1 P.M.		1 to 2 P.M.		AGGREGATE	NET DIFF.	AVERAGE
NUMBER	# Enter	# Exit	# Enter	# Exit	# Enter	# Exit	# Enter	# Exit	INFLOW	OUTFLOW	ENTER/EXIT
1	175	15	450	130	550	320	576	221	1751	686	1065
2	64	26	225	75	375	289	348	303	1012	693	319
3	21	5	202	78	295	89	329	65	847	237	610
4	15	0	67	25	159	38	160	25	401	98	313
5	78	13	115	69	107	89	155	54	455	225	230
6	2	3	15	4	25	16	29	42	71	65	6

TOTAL 355 62 1074 391 1511 841 1597 710 4537 1994 2543 272 *

* Indicates the Average Number of People per Hour Using all Entrances

** Based on counts conducted between May 15 - June 7, 1987

Weather: Sunny to Partly Cloudy

TABLE 4.1 - Tabor Site Inflow/Outflow Counts

ENTRANCE	10 to 11 A.M.		11 to 12 P.M.		12 to 1 P.M.		1 to 2 P.M.		AGGREGATE	NET DIFF.	AVERAGE
NUMBER	# Enter	# Exit	# Enter	# Exit	# Enter	# Exit	# Enter	# Exit	INFLOW	OUTFLOW	ENTER/EXIT
1	145	8	175	37	250	89	351	179	921	313	608
2	3	0	10	4	21	10	19	5	53	19	34
3	15	2	5	35	75	50	31	10	126	97	29
4	0	0	6	0	15	3	37	0	58	3	55
5	0	0	13	14	4	10	2	4	19	28	-9

TOTAL 163 10 209 90 365 162 440 198 1177 460 717 25 *

* Indicates the Average Number of People per Hour Using all Entrances

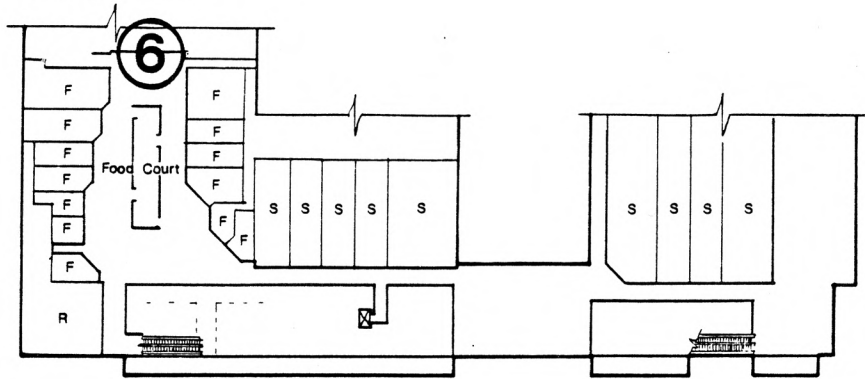
TABLE 4.2 - Tivoli Site Inflow/Outflow Counts

flow per hour through all entrances during the four hour period was 272 people/hour for the Tabor site compared to 25 people/hour for the Tivoli site suggesting more people using the Tabor site. According to Whyte (1980b), the times when entrances work well is when they are very crowded and he suggests a flow of 400 people per hour as adequate.

The primary purpose of analyzing the entrance flows is to understand which entrances are used more frequently and how they relate to the major pedestrian circulation routes. The entrances along the 16th Street Mall frontage appear to have the most people entering and exiting the Tabor site. Entrances 1, 2 and 3 (see Figure 4.2) account for 80% of the total aggregate inflow and 78% of the aggregate inflow during the peak use time period between 1:00 and 2:00 p.m. The findings indicate a considerable increase in the people entering the site from the first time period, 10 to 11 a.m. (355) and the second time period 11 to 12 p.m. (1074) due perhaps to people eating lunch. The last two periods indicate a moderate increase reaching a peak inflow of 1597 people during the 1 to 2 p.m. period.

Entrance 1 at the Tabor site is the most frequently used entrance with an average pedestrian flow of 609 people per hour. Located on the corner of Lawrence and 16th, this entrance accounts for 39% of the total aggregate inflow and 56% of the aggregate inflow into the study area. The heavy use of this entrance was due to its close proximity to a busy pedestrian corner, shuttle bus drop-off and the nearby Writer Square retail development resulting in good pedestrian access. The least used entrance (#6), was located on the third floor towards the rear of the food court. This entrance averaged 34 people entering and exiting per

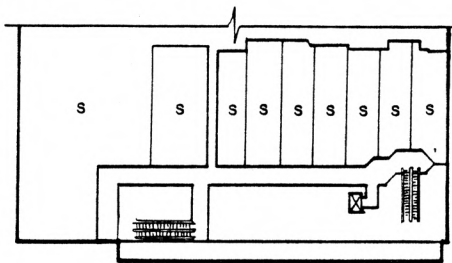
Third Level Plan



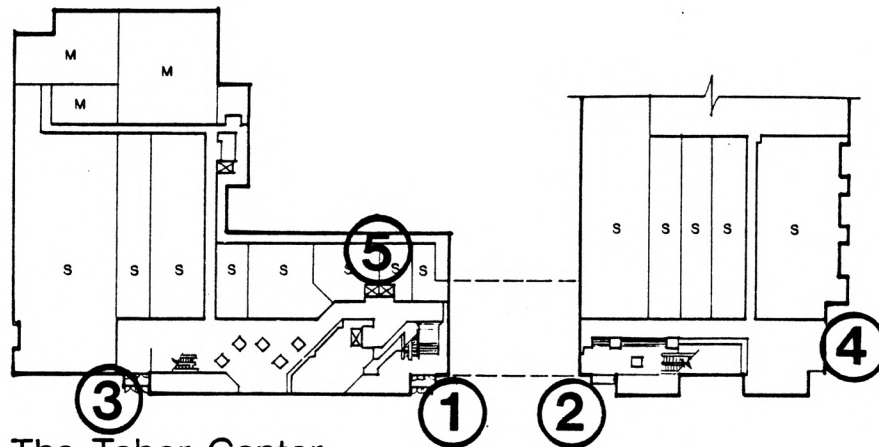
Key to Features:

- S Shops (Dry Goods)
- R Restaurants
- F Fast Food Places
- N Night Clubs
- U Future Shop or Restaurant
- M Mechanical or Maintenance
- ▨ Pedestrian Corridors & Areas
- ▤ Escalators
- ▥ Stairs
- ⊗ Elevators
- ▭ Benches

Second Level Plan



First Level Plan



The Tabor Center

ENTRANCES

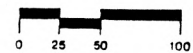
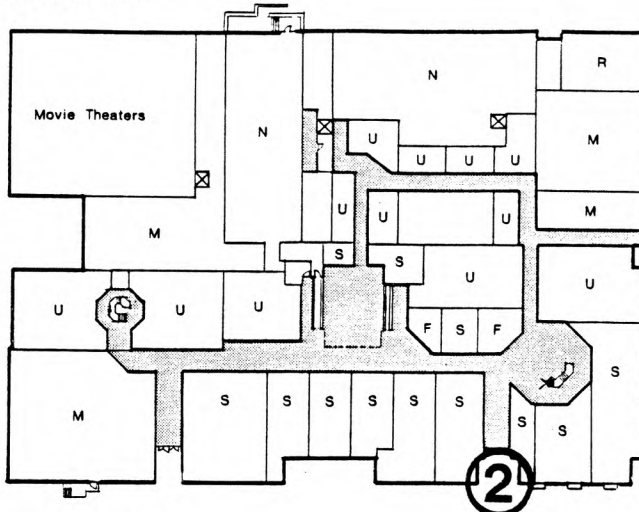


FIGURE 4.2 - Key to the Entrance Numbers Tabor Site

First Level Plan

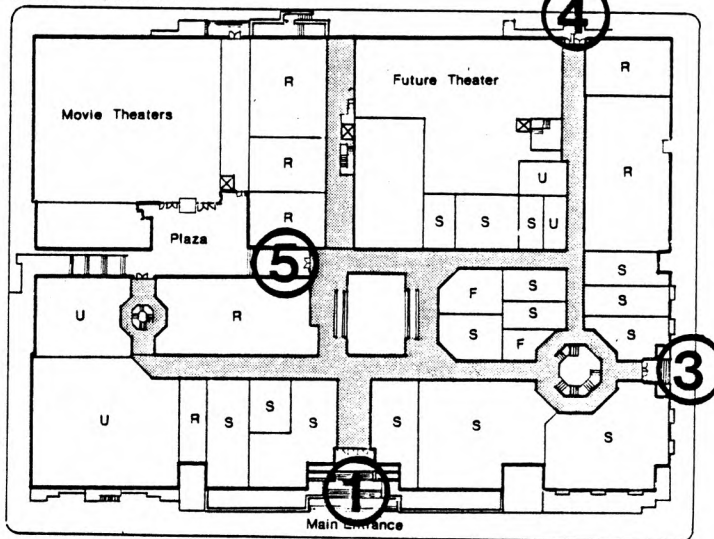


The Tivoli - Denver

Key to Features:

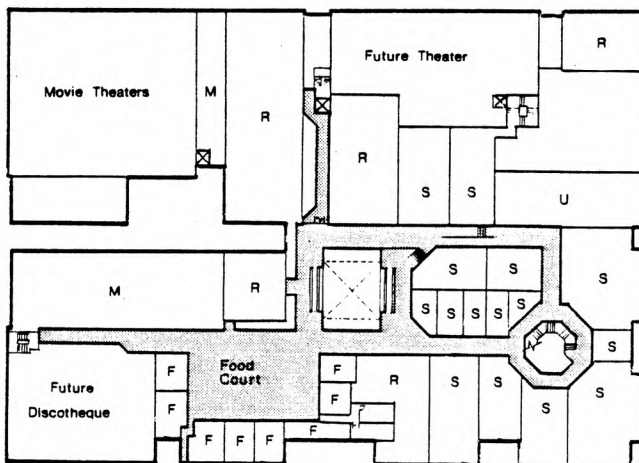
- S Shops (Dry Goods)
- R Restaurants
- F Fast Food Places
- N Night Clubs
- U Future Shop or Restaurant
- M Mechanical or Maintenance
- Pedestrian Corridors & Areas
- Escalators
- Stairs
- Elevators
- Benches

Second Level Plan



ENTRANCES

Third Level Plan



Legend:

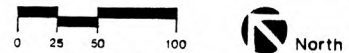


FIGURE 4.3 - Key to the Entrance Numbers Tivoli Site

hour and was used as a linkage between the Shops portion and the office tower of the Tabor Center.

The Tivoli site on the other hand, has one less entrance than The Tabor site and considerably less aggregate inflow (see Figure 4.3). The overall inflow pattern indicates a gradual, consistent increase as time progressed. The aggregate outflow also increases as time elapses. A slightly noticeable increase was noted during the 12:00 to 1:00 p.m. period with the peak flow occurring during the 1:00 to 2:00 p.m. period.

The main entrance (1), is located on the west side along 9th Street and accounted for 78% of the total aggregate inflow for the Tivoli site and averaged 309 people per hour entering and exiting during the four hour counting period. This entrance led to the second floor of the Tivoli study area and has a strong focus towards the parking lot. A sense of entrance was defined by the use of steps, planters and signage. Entrance 2 was located south of the main entrance and was intended for handicap access to the first floor of the study area. This entrance along with 4 and 5, were the least used and accounted for a combined total of 11% of the total aggregate inflow. Entrance 3 was the second most used entrance comprising 11% of the total aggregate inflow. The location of entrance 3 should reflect a higher proportion of use because of its proximity to a bus stop and strong link to the Auraria Campus.

Description of the Physical Layouts of each Study Site

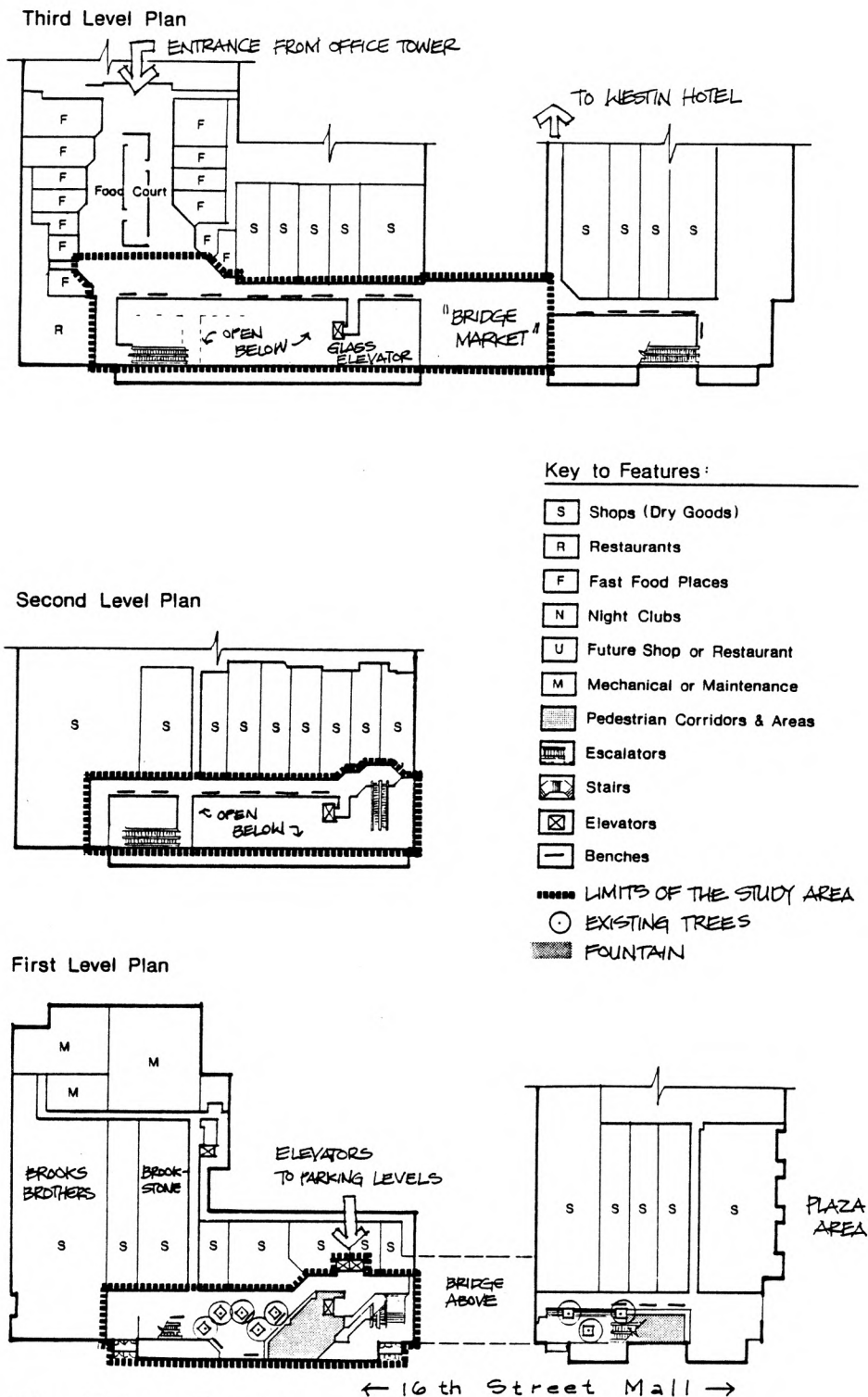
In order to fully understand the upcoming behavioral data, the existing physical conditions within the marketplace needs to be examined. The two sites are similar in many ways in that they both have multi-levels of retail space, food court areas, and conform to the

atrium building type. Three floors on each site were used because the contained the retail portions of the buildings. They also differ in many ways such as the layout size and configuration and type of amenities offered to the user. As shown in Table 4.3, the Tivoli site has a greater gross leasable area (GLA) than the Tabor site however the occupancy of the Tivoli is 65% versus 100% for the Tabor site. The atrium layout configuration of the Tabor site is linear with an overall length of 500 feet and 75 foot height (see Figure 4.2) as opposed to a central skylight configuration for the Tivoli (see Figure 4.3) thus, creating a stronger relationship to the street (16th Street Mall). The Tabor site has a larger food court area (9,075 sq. ft.) than the Tivoli site (3,650 sq. ft.). The limits of the study area for the Tivoli is larger (33,700 sq. ft.) compared to 18,025 sq.ft. for the Tabor site. The pedestrian corridors are much narrower in the Tabor site than on the Tivoli site creating more crowded pedestrian flows.

The Tabor site study area was limited to the three levels between Larimer and Lawrence Streets. The other two levels between Lawrence and Arapahoe Streets were excluded in order for the study area to be similar in scope to the Tivoli site but most importantly, for manageability concerns in terms of size and pedestrian volumes. The first level has the largest amount of open space and contains a state-of-the-art fountain reaching a height of 34 feet. The Tivoli site does not have a water feature. The Tabor site has an attractive glass elevator which connects the three levels. The elevators at the Tivoli site are located away from the main retail sections and closer to the restaurants. Escalators are used as the primary mode of vertical people movement on

ITEM DESCRIPTION	TABOR	TIVOLI
Gross Leasable Area (GLA)	115,000 sq. ft.	152,737 sq. ft.
Percent Occupancy	100%	65%
Parking	1,900 (Garage)	700 (Surface)
Limits of the Study Area	18,025 sq. ft.	33,700 sq. ft.
Food Court Area	9,075 sq. ft.	3,650 sq. ft.
Linear Feet of Seating	198 ft.	60 ft.
Percentage of Seating Area	1.1%	0.26%
Linear Feet Seating/Sq. Ft.	1 / 91 sq. ft.	1 / 561 sq.ft.

TABLE 4.3 - Layout Comparisons of the Study Sites



The Tabor Center

EXISTING CONDITIONS

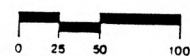
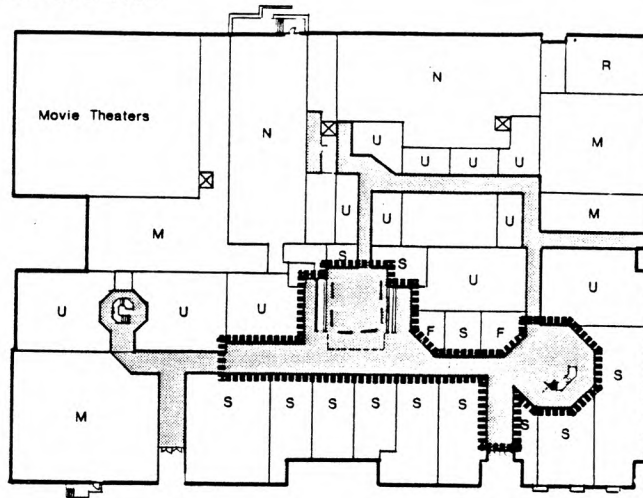


FIGURE 4.4 - Existing Conditions Tabor Site

First Level Plan



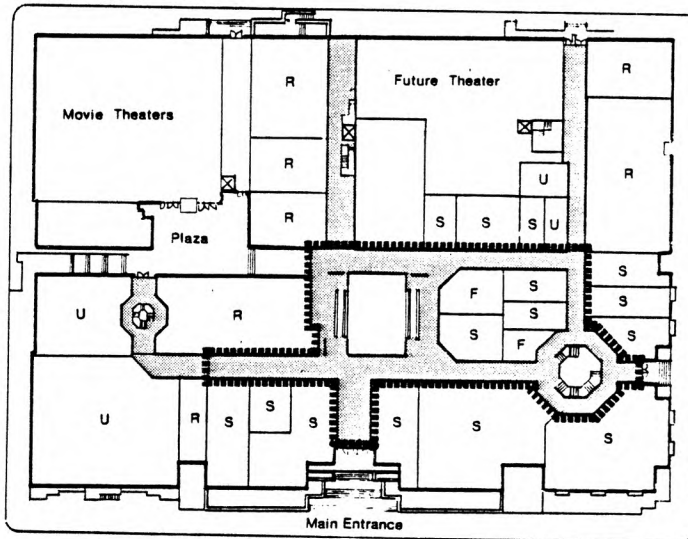
The Tivoli - Denver

Key to Features:

- S Shops (Dry Goods)
- R Restaurants
- F Fast Food Places
- N Night Clubs
- U Future Shop or Restaurant
- M Mechanical or Maintenance
- Pedestrian Corridors & Areas
- Escalators
- Stairs
- Elevators
- Benches

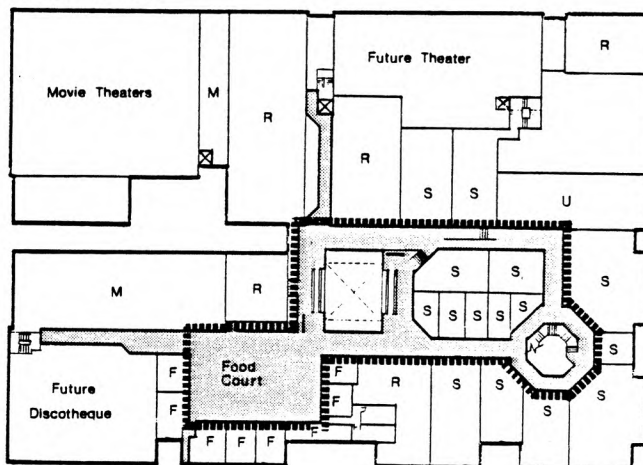
LIMITS OF THE STUDY ARE

Second Level Plan



EXISTING CONDITIONS

Third Level Plan



Legend:

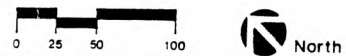


FIGURE 4.5 - Existing Conditions Tivoli Site

both sites. The Tabor site has five large caliper trees set in tree grates located on the first level whereas the Tivoli site has four small caliper trees in planters creating a minimum impact. Along the railings of both sites are cascading foliage plants and in the case of the Tivoli inhibits views to the floors below.

The amount of seating varies in each site. The Tabor site has benches on the first level under trees and near the fountain. The upper levels have benches running along the edge railings at approximately 15 foot intervals. The Tivoli has six benches concentrated on the lower level surrounding the edge of the open area. Other benches in the Tivoli site are located near the top and bottom of the escalators and no benches placed along the edge railing. The total linear feet of bench seating in the Tabor site is 198 compared to 60 feet in the Tivoli site. In terms of seating area, the Tabor site seating accounts for 1.1 percent of the total limits of the study area compared to .26 percent at the Tivoli. Whyte (1980b) recommends a minimum of one linear foot of seating for every 30 square feet of open space (p. 76). With this in mind, the Tabor site has one foot of seating for every 91 square feet of open area versus one foot for every 561 square feet at the Tivoli site.

The analysis of the two sites with respect to the contextual issues gives an indication of how the sites are effected by exterior forces as well as how the sites compare physically. The following section deals with how the study areas function socially through an analysis of the observed data.

ANALYSIS OF BEHAVIORAL OBSERVATIONS

After review of the contextual data and preliminary observations,

the data gathered through behavior mapping was then interpreted. The following section reviews the procedure for analyzing the data, a description of the aggregate dot maps, the analysis of seating and other activities within the marketplace, evaluations of gender types and finally evaluating groupings of people.

Analytical Procedure for the Observed Data

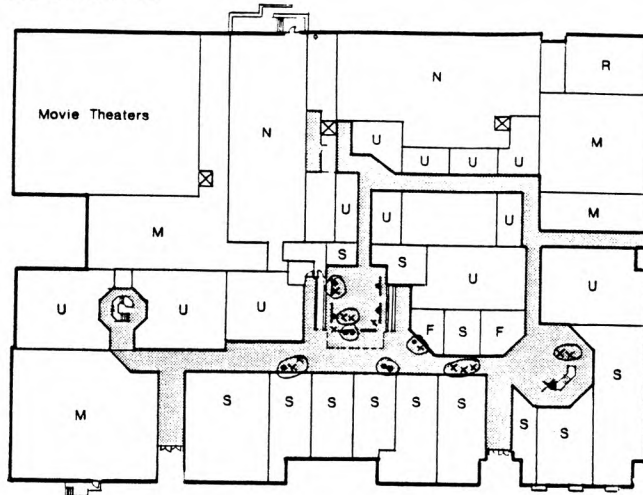
The field recording maps for each floor were reduced and combined to form one composite behavior map showing all three floors on one map. Figure 4.6 shows a typical composite behavior map for the Tabor site used to delineate and extract data. The data from the field recording maps were transferred onto the behavior maps and contained data on the gender of the user, group type, and activity for each of the four half-hour time periods between 11:30 a.m. and 1:00 p.m. on a typical weekend. This procedure was used to generate the primary instrument or behavior map in order to analyze the number and gender of users as well as how people gathered in groups.

A simple dot map was prepared for each study site summarizing the overall, aggregate behavior patterns during the observation period. These maps were generated using registered acetate overlays to combine the locations of the users from each time period. The dot maps were used to analyze areas of user concentration and activity patterns for each site.

Overview of the Aggregate Dot Maps

The Tabor aggregate dot map (see Figure 4.7) revealed patterns of concentrated use for all three floors. The first floor plan indicated a

First Level Plan

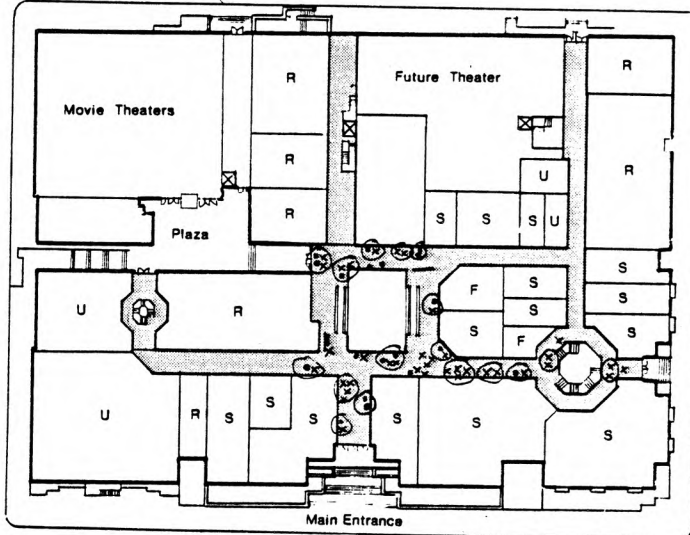


The Tivoli-Denver

Key to Features:

- S Shops (Dry Goods)
- R Restaurants
- F Fast Food Places
- N Night Clubs
- U Future Shop or Restaurant
- M Mechanical or Maintenance
- Pedestrian Corridors & Areas
- Escalators
- Stairs
- X Elevators
- Benches

Second Level Plan



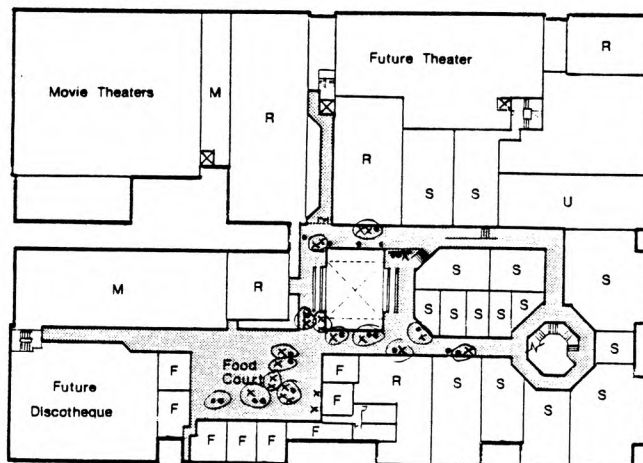
WEEKEND

Date: 5/23/87 5/24/87
6/6/87

Weather: SUNNY (83°F)

Time: 11:00 AM.

Third Level Plan



Legend:

- x WOMEN
- MEN
- GROUP OF 2
- GROUP OF 3+

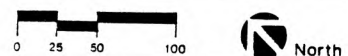
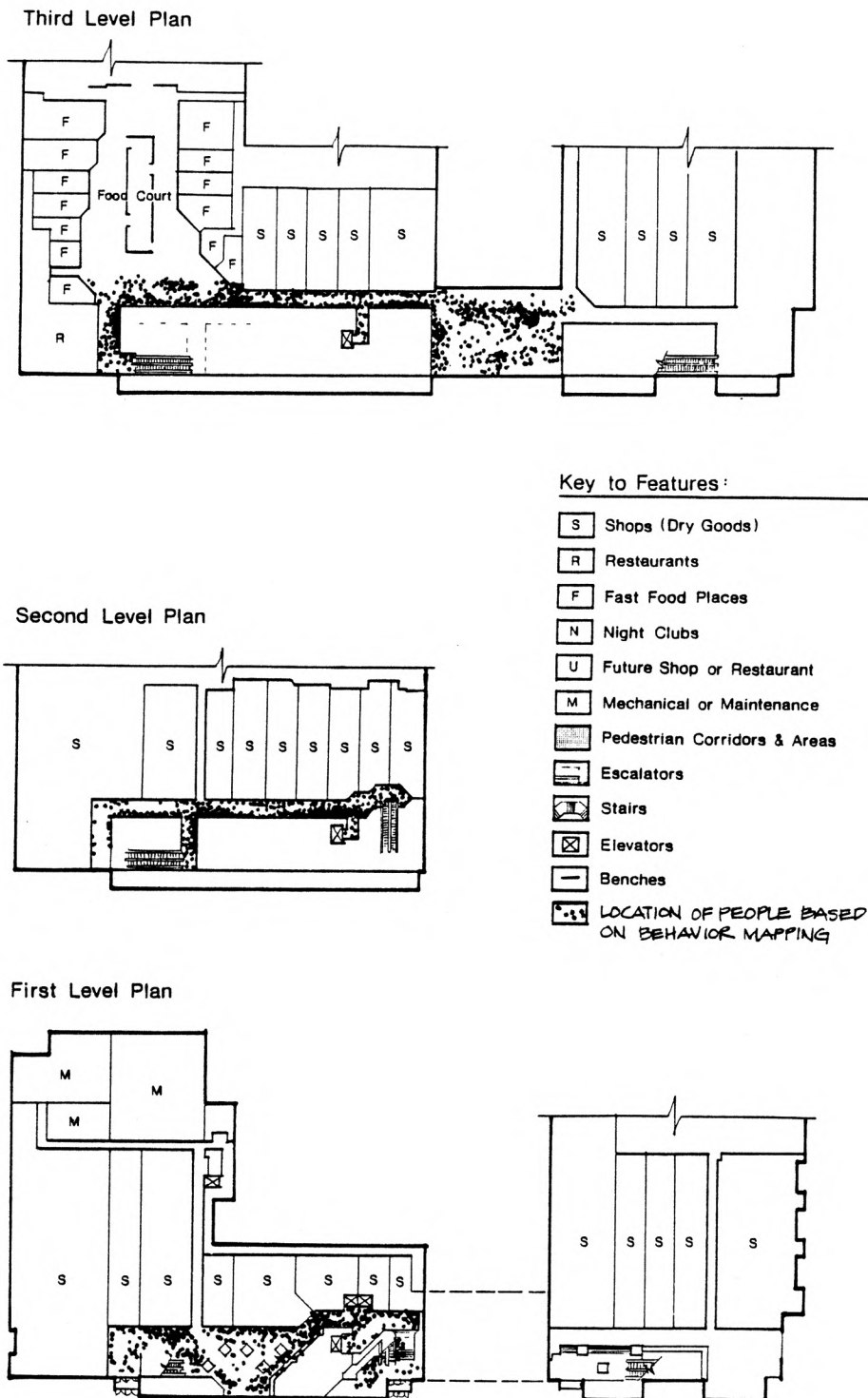


FIGURE 4.6 - Typical Composite Behavior Map of the Tivoli Site



The Tabor Center

CONCENTRATIONS OF PEOPLE



FIGURE 4.7 – Aggregate Dot Map – Concentrations of People (Tabor)

general migration to pedestrian edges near storefronts, steps along the fountain and overlooks. A large concentration of people were particularly attracted to the Brookstone storefront, a popular specialty gadget store. Another large concentration of people occurred near a bend in the circulation corridor overlooking the fountain and exposed glass elevator. Minor gathering areas occurred near the main elevators, stairs, escalator bases and bench seating areas. Activities included sitting, standing near edges, window shopping and moving.

The second floor indicated a clear migration of people toward the edges particularly along the railings. Activities associated with this migration of people along the railings consisted primarily of sitting and standing. One corner created a large pocket of concentrated use probably because of the views of people and activities below as well as being at pedestrian intersection point. Another large concentration was located directly in front of the water fountain jet and exposed glass elevator and was probably the result of people appreciating the amenities.

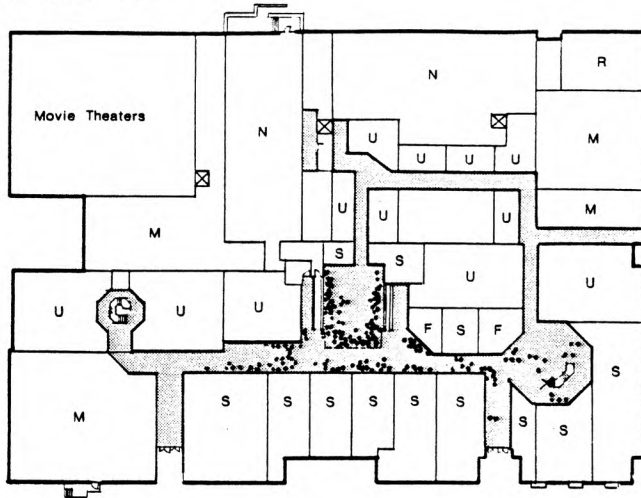
The upper floor of the Tabor site offered open views to the floors below and down the entire length of the atrium. Large masses of people gathered along the edges and two distinct massings appeared. The first was located at the end of the study space near the top of the escalator. This area provided a vantage point from which one could view along the entire length of the corridor. The other area occurred at the narrow transition between the food court eating area and the retail corridor. Minor masses of people gathered along edges, benches, storefronts, and the Bridge Market area.

The composite dot map for the Tivoli site (see Figure 4.6), provided a useful overview of where people were sitting standing and lingering. The tendency for people to migrate toward edges will be termed "the edge effect". On the first floor of the Tivoli site, people displayed the affinity to gather in the large open space beneath the skylights. They tended to show a preference for gathering near the push carts and bench seating which were positioned along the edges. Window shoppers stayed near the central open area and gradually filtered out to the least used areas. The center of the open area was seldom used in terms of people lingering for extended period of time perhaps because the space was sometimes used as a stage area for entertainment in the late afternoons.

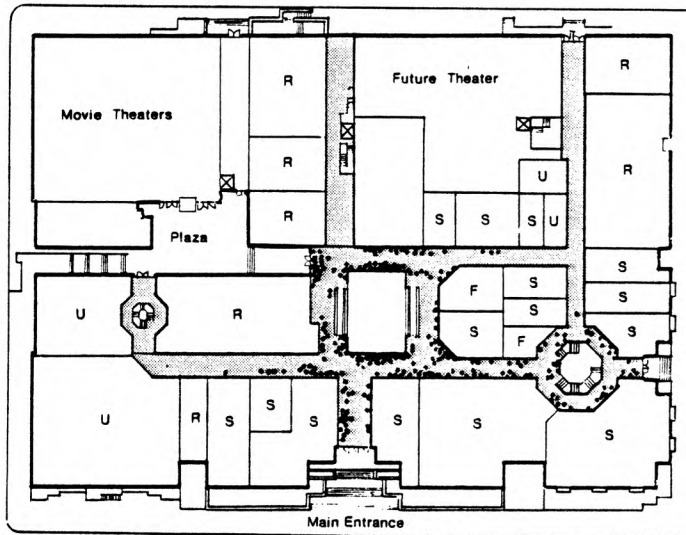
The second level, or main level, attracted more people than the lower level due to the stronger relationship with the main entrance. The edges were the most heavily used areas particularly along the railings surrounding the atrium. Window shoppers were scattered along the storefront edges and were concentrated closer to the atrium. People sitting on the benches appeared as minor concentrations along with people standing near a beer label exhibit displayed along the far northern wall of the study area limits.

The third level appeared to have an similar overall pattern of behavior concentrations than the second level. The edges along the railings attracted people who seemed to be looking at other people below and on the escalators. Minor concentrations of people centered around the benches located near the ends of the escalators. The food court area contained the overall single largest massing of people within the

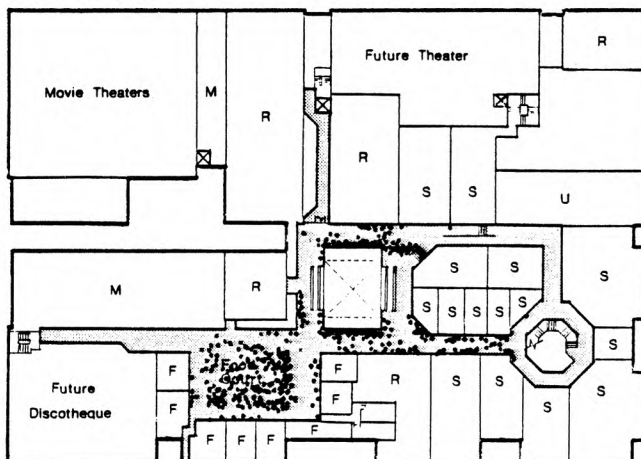
First Level Plan



Second Level Plan



Third Level Plan



The Tivoli - Denver

Key to Features:

- S Shops (Dry Goods)
- R Restaurants
- F Fast Food Places
- N Night Clubs
- U Future Shop or Restaurant
- M Mechanical or Maintenance
- ▨ Pedestrian Corridors & Areas
- ▤ Escalators
- ▥ Stairs
- ⊠ Elevators
- Benches
- LOCATION OF PEOPLE BASED ON BEHAVIOR MAPPING

CONCENTRATIONS OF PEOPLE

Legend:

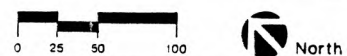


FIGURE 4.8 - Aggregate Dot Map - Concentrations of People (Tivoli)

entire site. The behavior within the food court was very complex and was not analyzed very deeply.

Analysis of Sitting

Observed activities were tabulated and separated into four main types. These types are sitting, standing near edges, window shopping and other activities. Sitting activities are important to the success of any urban space because they stimulate social activities such as conversation and people watching. Whyte (1980b) reached the simple conclusion that "people sit most where there are places to sit" (p. 28). Important trends in sitting behavior can be found through observation regarding where people chose to sit such as benches which provide a good view of surrounding activities (Gehl, 1980/1987). Gehl further suggests that benches with a view of the heaviest used pedestrian routes are used most while those oriented away are used less frequently. The importance of people sitting in the marketplace provides an indicator of the success of the space socially.

The overall findings for all people observed indicate, 341 people or 15% of the users at the Tabor site were sitting (see Table 4.4) compared to 70 people or 9% at the Tivoli site. The peak sitting time for both sites occurred during the 12:00 p.m. time period with the Tabor site having 89 people sitting and the Tivoli site 22 people. The number of people sitting at both sites remained relatively constant as time progressed averaging 85 people per time period for the Tabor site and 17.5 people per period at the Tivoli site. In general, the sitting behavior at both site was very regular in terms of overall numbers of

people however, there are some differences between men and women sitting.

As Tables 4.5 and 4.6 illustrate, the activity data was separated by gender. The Tabor site had a greater amount of women sitting (232) than men (109) compared to an almost equal proportion of women (54) and men (47) at the Tivoli site. The peak sitting time for men at the Tabor site occurs at 1:00 p.m. with 38 men observed sitting. The amount of men sitting at the Tivoli site remained very regular averaging 12 men per period with no significant peak period. The peak sitting period for the women at the Tabor site occurred during the 11:30 a.m. period however this peak was very slight as the number of women sitting decreased slightly as time progressed. The peak sitting time for women at the Tivoli site occurred at 12:30 p.m. with 31 women sitting accounting for 57% of all women sitting during the observation period. The number of people engaged in sitting activities can be further examined by analyzing where people tend to sit.

Composite dot maps delineating where people sat were generated for each study site. In general terms, the dot maps show similar findings as Whyte's conclusion on sitting. The users are distributed somewhat evenly wherever there is a bench. On the Tabor site, people tend to mass near corners or along the railings overlooking the fountain (see Figure 4.9). The users at the Tivoli site concentrated on the lower level because this area contained the most benches (see Figure 4.10). Dot maps were generated separating men and women sitting during the observation period in order to find some differences. Women tend to sit closer to the fountain on the first level of the Tabor site and also

	11:30 A.M.		12:00 P.M.		12:30 P.M.		1:00 P.M.		T O T A L S	
ACTIVITY DESCRIPTION										
	Tabor	Tivoli	Tabor	Tivoli	Tabor	Tivoli	Tabor	Tivoli	TABOR	TIVOLI
Sitting	76	15	89	22	78	12	98	21	341	70
Standing Near Edges	102	24	96	48	136	40	145	41	479	153
Window Shopping	140	35	175	80	180	61	207	115	702	291
Other Activities	112	39	246	59	190	68	276	64	824	230
TOTAL ACTIVITIES	430	113	606	209	584	181	726	241	2346	744

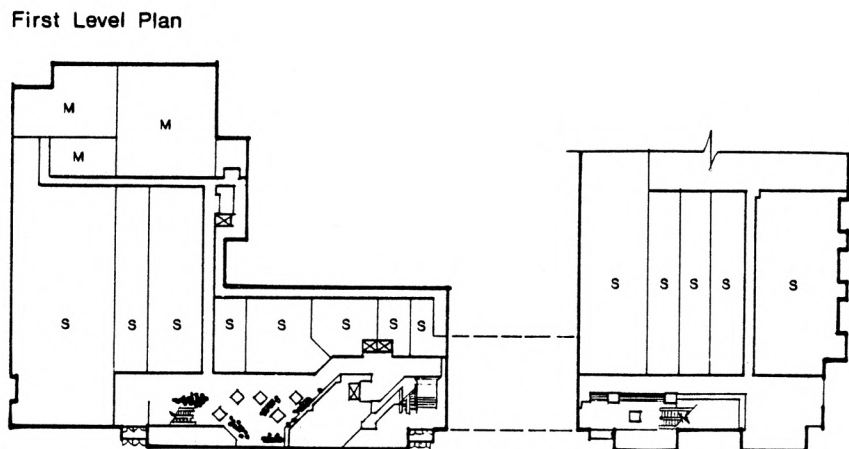
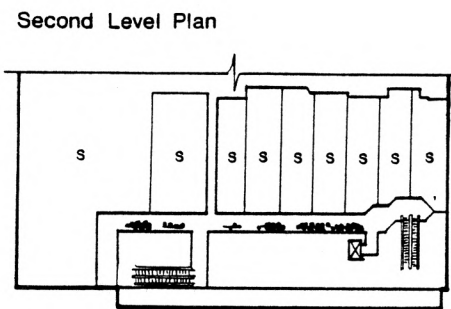
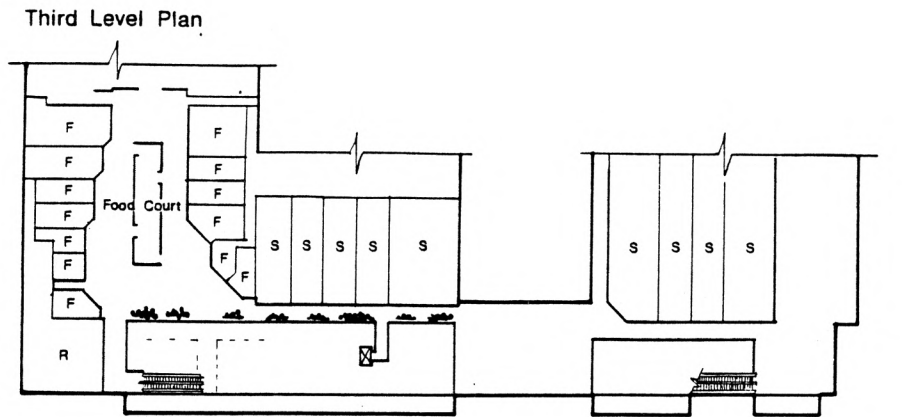
TABLE 4.4 Observed Activities - All Users

ACTIVITY DESCRIPTION	11:30 A.M.		12:00 P.M.		12:30 P.M.		1:00 P.M.		T O T A L S	
	Tabor Tivoli		Tabor Tivoli		Tabor Tivoli		Tabor Tivoli		TABOR TIVOLI	
Sitting	13	11	30	13	28	10	38	13	109	47
Standing Near Edges	47	14	75	30	88	22	95	26	305	92
Window Shopping	15	13	62	22	57	11	110	21	244	87
Other Activities	12	10	65	34	97	23	63	37	237	104
TOTAL ACTIVITIES MALE	87	48	232	99	270	66	306	97	895	310

TABLE 4.5 Observed Activities - Male Users

ACTIVITY DESCRIPTION	11:30 A.M.		12:00 P.M.		12:30 P.M.		1:00 P.M.		T O T A L S	
	Tabor Tivoli		Tabor Tivoli		Tabor Tivoli		Tabor Tivoli		TABOR TIVOLI	
Sitting	63	5	59	10	50	31	60	8	232	54
Standing Near Edges	55	12	21	16	48	18	50	18	174	64
Window Shopping	125	22	113	42	123	39	97	80	458	183
Other Activities	100	26	181	42	93	27	213	38	587	133
TOTAL ACTIVITIES FEMALE	343	65	374	110	314	115	420	144	1451	434

TABLE 4.6 Observed Activities - Female Users



Key to Features :

- S Shops (Dry Goods)
- R Restaurants
- F Fast Food Places
- N Night Clubs
- U Future Shop or Restaurant
- M Mechanical or Maintenance
- PEDESTRIAN CORRIDORS & AREAS Pedestrian Corridors & Areas
- ESCALATORS Escalators
- STAIRS Stairs
- ELEVATORS Elevators
- BENCHES Benches
- PEOPLE SITTING PEOPLE SITTING

The Tabor Center

SITTING

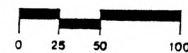
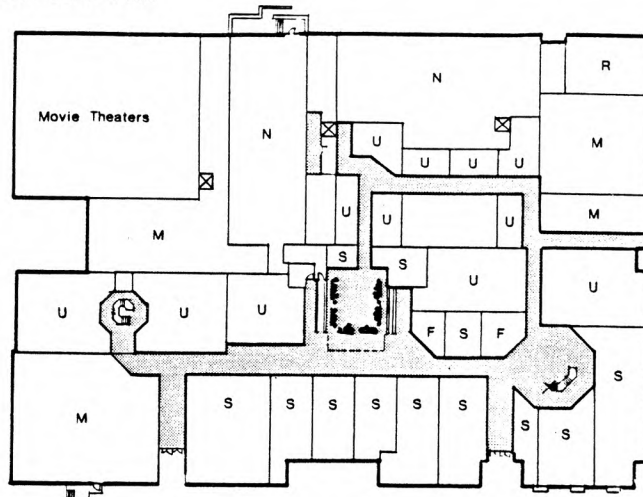


FIGURE 4.9 Aggregate Dot Map - Concentration of Sitting (Tabor)

First Level Plan

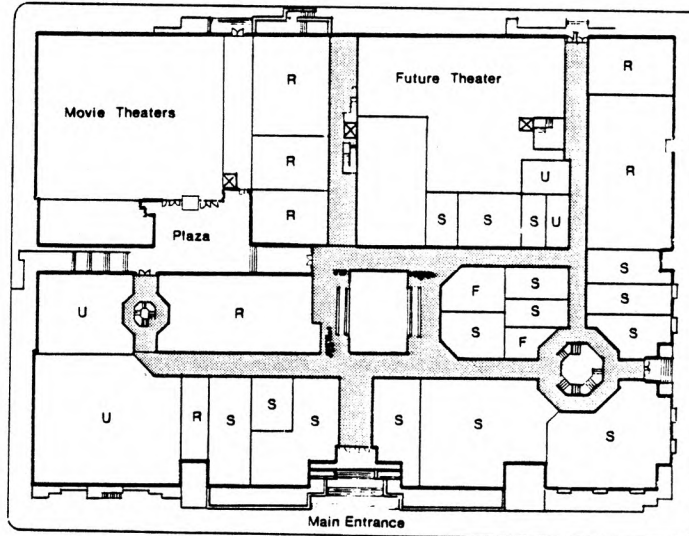


The Tivoli - Denver

Key to Features:

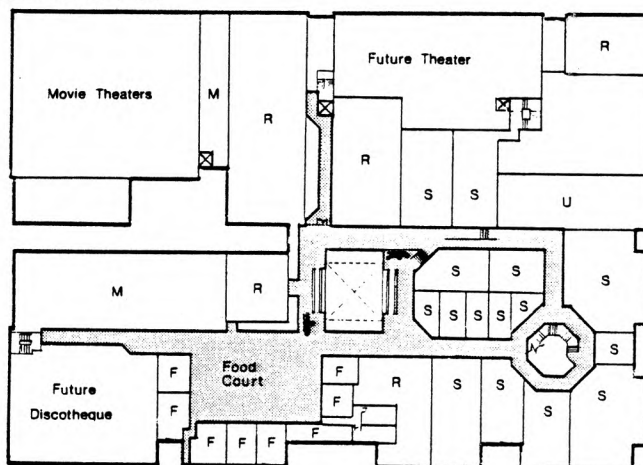
- S Shops (Dry Goods)
- R Restaurants
- F Fast Food Places
- N Night Clubs
- U Future Shop or Restaurant
- M Mechanical or Maintenance
- Pedestrian Corridors & Areas
- Escalators
- Stairs
- Elevators
- Benches
- PEOPLE SITTING

Second Level Plan



SITTING

Third Level Plan



Legend:

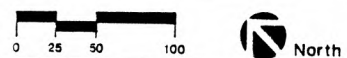


FIGURE 4.10 Aggregate Dot Map - Concentration of Sitting (Tivoli)

tend to sit near the food court and transitional area between the food court and the store fronts. In general, the men at the Tabor site are scattered and really have no seating preference in any particular place. The Tivoli dot maps show men preferring to sit on the lower levels whereas women tend to disperse evenly among all the benches.

In summary, sitting activities become clearer after one analyzes the numbers of people sitting, the gender of the user, and where people tend to sit. The findings indicate the Tabor site has more people engaged in sitting activities than the Tivoli site. Women tend to sit more than men in the Tabor site than the Tivoli site and people on both sites sit where there are places to sit. The next section examines the other activities and how they relate to sitting.

Analysis of Window Shopping, Standing Near Edges, and Other Activities

The importance of observing activities according to Gehl (1980/1987) is that it allows us the opportunity to see and hear other people in a city offering "valuable information about the surrounding social environment in general and about the people one lives or works with in particular" (p. 23). People and human activities attract other people. The observed data were tabulated (see Table 4.4) for all users during the observation period into four main activity types: sitting, standing near edges, window shopping and other activities. These were chosen because they represent they cross section of observable activities (ie: within the limits of methodology procedure) and they were the main activities engaged during the observation period. People standing near edges such as railings or walls for a duration of approximately 2-3 minutes were counted as standing near edges. People strolling along and

occasionally stopping to look at store front displays were considered window shoppers. Other activities consisted of people engaged in one or more of the following activities: eating, conversation, people watching, reading, lingering and moving.

The overall findings for all the users of the Tabor site indicate 15%-sitting, 20%-standing near edges, 30%-window shopping, and 35%-other activities compared to 9%-sitting, 20%-standing near edges, 39% window shopping, and 47%-other activities for all the users of the Tivoli site (see Table 4.4). In general, there are more people window shopping than those sitting and standing for both sites during the observation period. The peak activity time occurred during the 1:00 p.m. time period for both sites with other activities being the dominant activity observed in the Tabor site and window shopping the most dominant at the Tivoli site.

People standing near edges particularly near railings and overlooks, reached a low point at 12:00 p.m. for the Tabor site but this same time period was the peak time period for standing near edges at the Tivoli site. The number of people window shopping increased steadily as time progressed at the Tabor site but was somewhat irregular at the Tivoli site with a slight increase in number at 12:00 p.m. and peaking once again at 1:00 p.m.

The activity data was separated and tabulated by gender type in order to find differences in observed activities among men and women. The men at the Tabor site tend to stand near edges (305 or 34%) more than women (174 or 12%). Women tend to sit (232 or 16%) more than men (109 or 12 %) at the Tabor Site. The men at the Tivoli site also tend to stand more (92 or 29%) than women (64 or 15%). Men at the Tivoli

site, surprisingly, tend to sit slightly more than women (men-47 or 15% women-54 or 12%). Women on both sites tend to window shop more than men (Tabor women-458 or 32%; Tabor men-244 or 27%; Tivoli women-183 or 42%; Tivoli men-67 or 22%).

The peak time for standing near edges for men at the Tabor site occurred at 1:00 p.m. (95) and for the Tivoli site at 12:00 p.m. (30). The pattern for women standing near edges at the Tabor site was irregular with a low point occurring at 12:00 p.m. (21) compared to a more constant pattern observed at the Tivoli site. The amount of women window shoppers tended to decrease as time progressed at the Tabor site contrasted to the general increase in women window shoppers at the Tivoli site. Men window shoppers on the other hand showed a regular increase in number as time progressed compared to a constant number at the Tivoli site. To further explain the relationship among men and women in terms of activities, the following section will help clarify the differences among the genders.

Analysis of Gender Type

Analyzing people in the marketplace in terms of gender and quantity is important because people tend to attract other people providing one measure of the success of the space in terms of sociability (Whyte, 1980b). The presence of people in urban spaces is the basis for stimulating social activities and reflects one important aspect contributing to the overall success of the space. Observing other people in a public setting satisfies the need for human contact. The procedure for analyzing the number and gender of the users required counting total numbers of people by sex for each time period per study

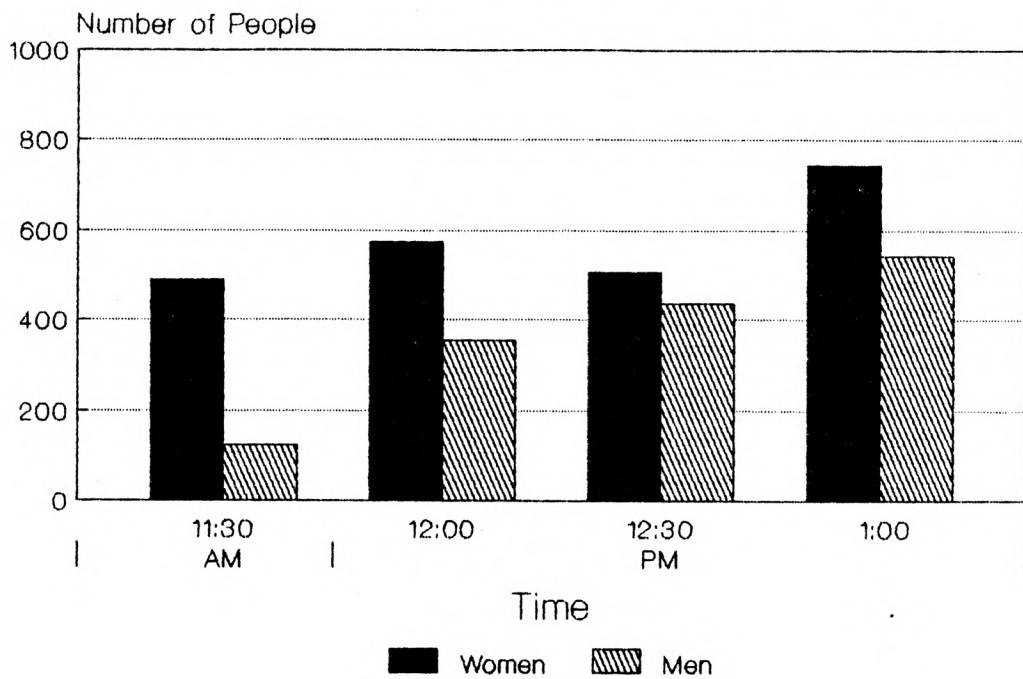
site. The data was transferred into tabular form (see Table 4.7) and then graphed (see Figure 4.11). These figures are more accurate than the rough counts taken at the entrances during preliminary observation.

	11:30 A.M.		12:00 P.M.		12:30 P.M.		1:00 P.M.		T O T A L S	
DESCRIPTION	-----		-----		-----		-----		-----	
	Tabor	Tivoli	Tabor	Tivoli	Tabor	Tivoli	Tabor	Tivoli	TABOR	TIVOLI
Total Number of People	615	128	931	247	944	241	1286	314	3776	930
Number of Males	125	54	356	116	436	88	542	126	1459	384
Number of Females	490	74	575	131	508	153	744	188	2317	546
Number of Groups	305	38	358	76	345	83	525	95	1533	292
Number of Individuals	159	35	150	68	130	47	97	78	536	228

TABLE 4.7 Demographics and Groupings

The findings indicate a greater overall proportion of women present during the observation period for both sites. The total number of people counted during the observation period at the Tabor site was 3,776 of which 61% were women and 39% men. The Tivoli has a fewer total of people during the same period and of the 930 people present, 58% were women, 43% men. The largest amount of people present during any single time period occurred at 1:00 p.m. for both sites (Tabor-1286; Tivoli-314). The total number of men increased steadily as time progressed

The Shops at Tabor Center



The Tivoli-Denver

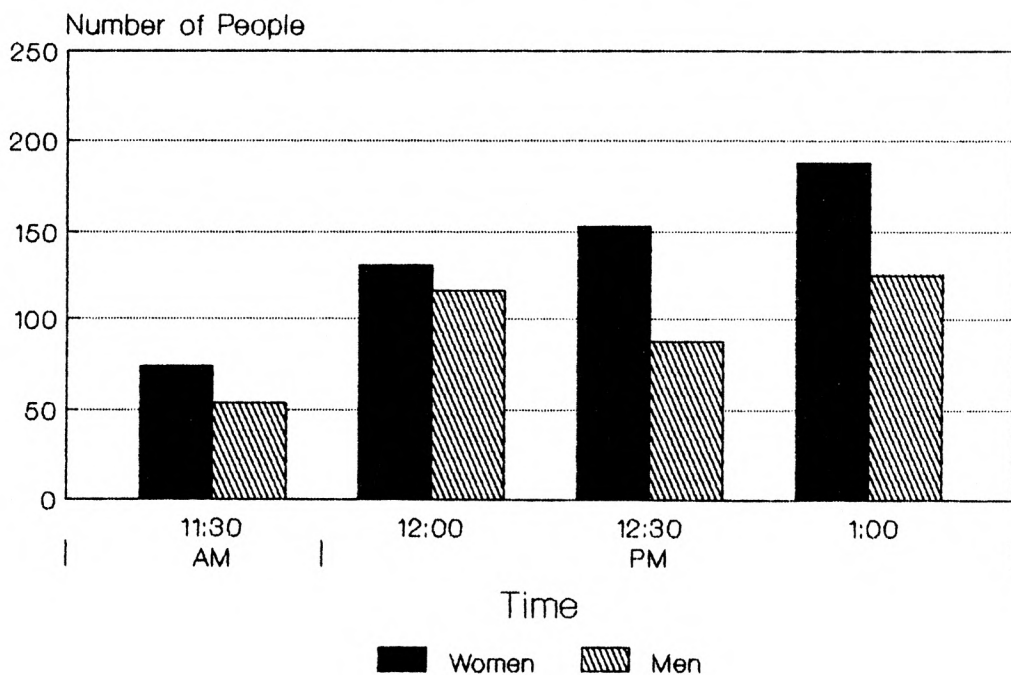


FIGURE 4.11 Graph of Men and Women (Numbers) vs. Time

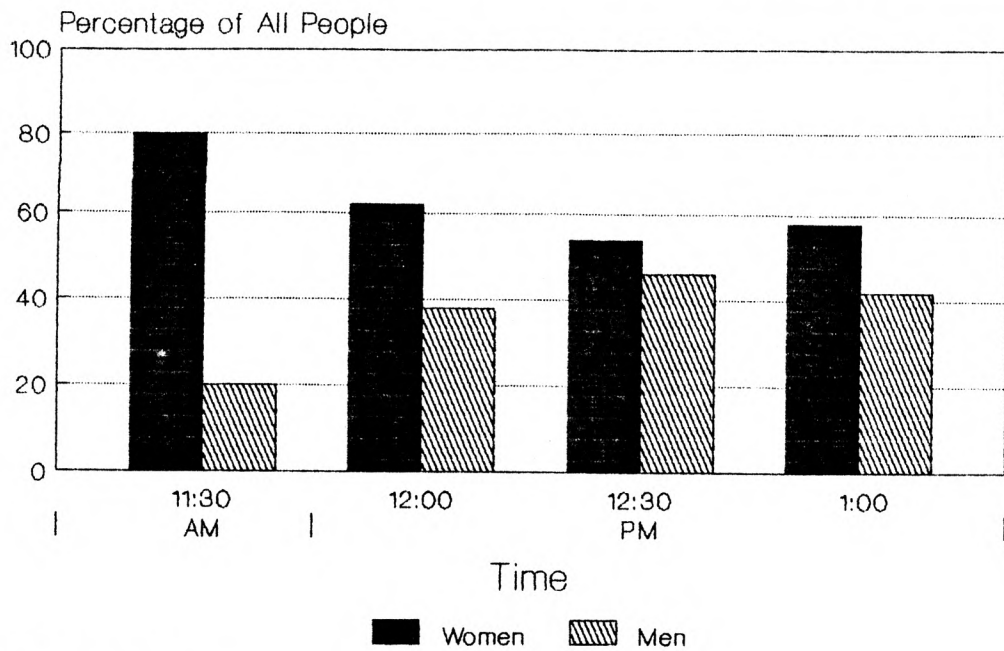
compared to the number of men at the Tivoli where the numbers remain relatively constant through the observation period.

When comparing the proportion of men versus women in terms of percentages, some interesting relationships are became apparent. Women at the Tabor site appear in greater proportion in the beginning of the observation period (see Figure 4.12) and decrease in proportion as time elapses. The proportion of women remains greater than the proportion of men particularly during the 11:30 a.m. time period when 80% of the users are women. The greatest proportion of women over men at the Tivoli occurs during the 12:30 p.m. time period when 63% of the users are women. The overall proportion of men and women at the Tivoli remains relatively constant during the observation period with women having a slightly greater proportion.

Comparing the proportion of each gender separately to each study site is illustrated in Figure 4.13. The proportion of women during the first two observation periods is greater in the Tabor site (11:30 a.m.- 80%; 12:00 p.m.- 62%) than in the Tivoli site (11:30 a.m.- 58%; 12:00 p.m.- 53%). However, the Tivoli shows a greater proportion of women during the last two periods. The relationship is reversed for the proportion of men. The percentages of men during the first two observation periods in the Tivoli (11:30 a.m.- 42%; 12:00 p.m.- 47%) is greater than the proportion at the Tabor site (11:30 a.m.- 20%; 12:00 p.m.- 38%).

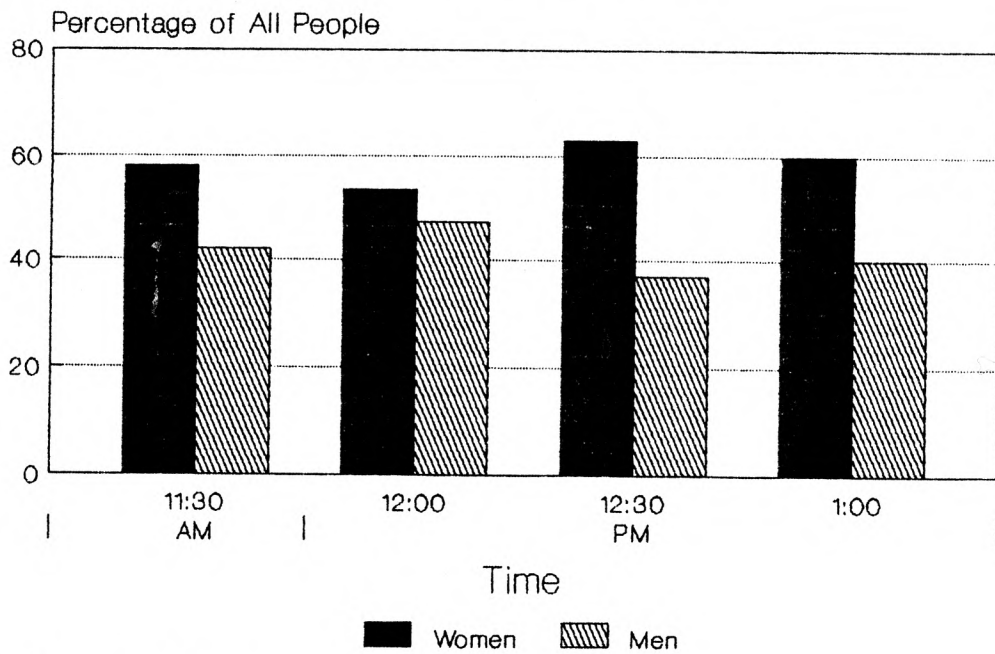
The importance of analyzing the number of people and their gender within the marketplace allows one to compare the male to female ratio. According to Whyte (1980b), the most used places (sociable) have a

The Shops at Tabor Center



Based on Behavior Mapping

The Tivoli-Denver



Based on Behavior Mapping

FIGURE 4.12 Graph of Men and Women (Percentages) vs. Time

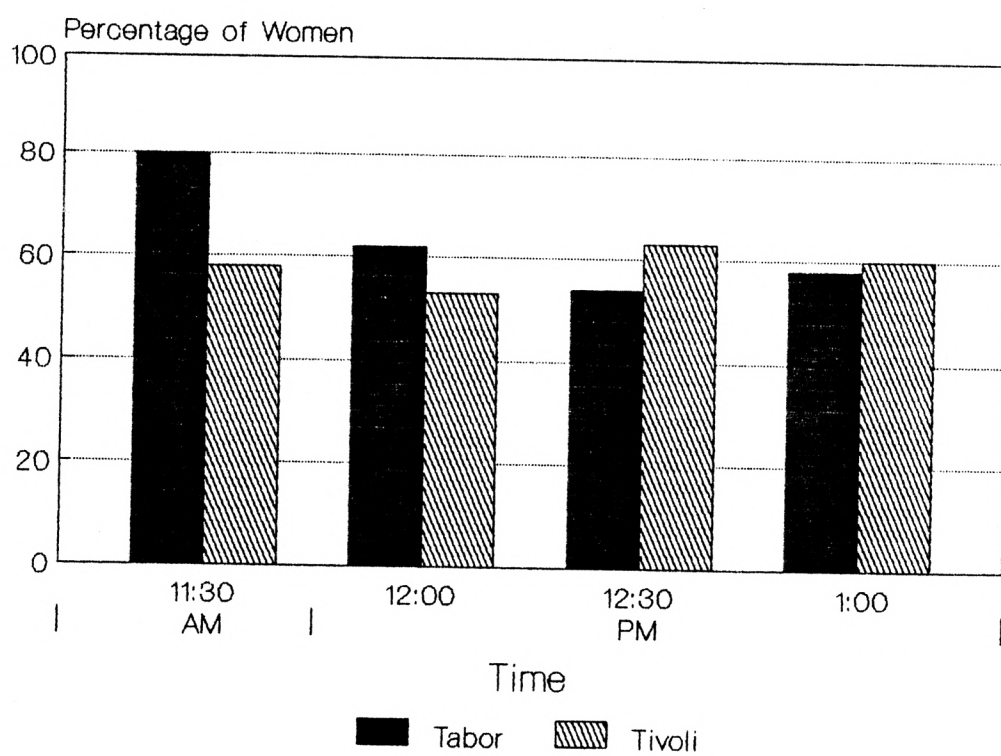


FIGURE 4.13 Graph of Women (Percentages) vs. Time

higher proportion of women. Women tend to be more choosy than men and are very conscientious of the places they visit and experience.

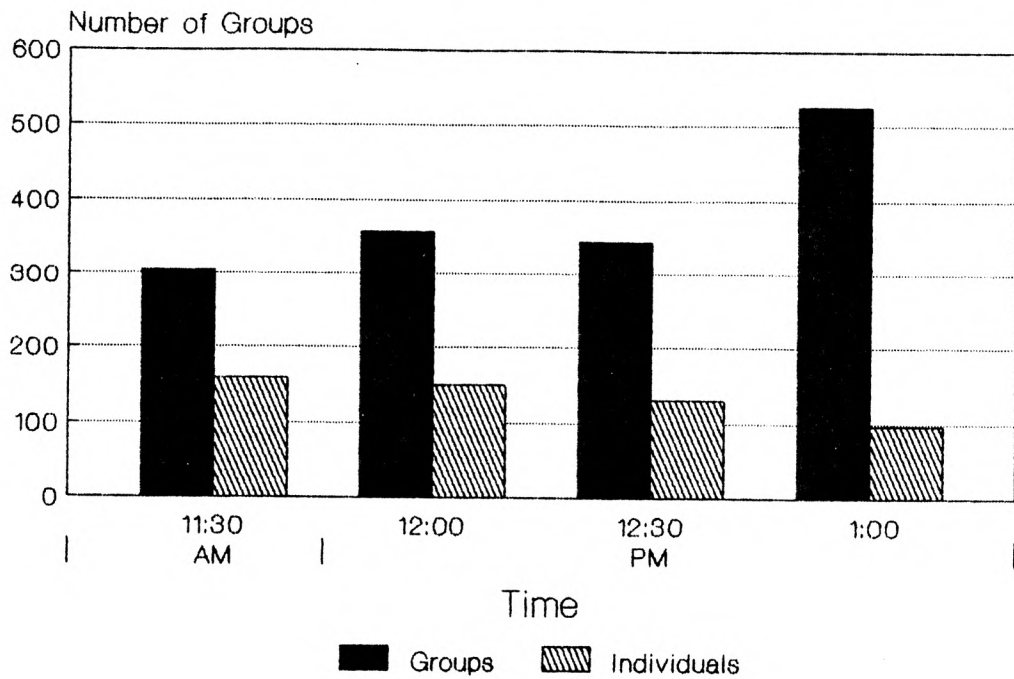
Although both sites have a higher proportion of women, the findings can help indicate the degree to which a site is used more heavily than another. Further analysis of other factors contributing to usage will aid in clarifying this point.

People in Groups Versus Individuals

The analysis of people in groups is important because according to Whyte (1980b) the most sociable places contain a higher proportion of people in groups. Groups of twos and threes indicate to users have made a decision to be in that place. The number of groups and individuals were counted from each map for each time period and tabulated (see Table 4.7) and then graphed (see Figure 4.14).

The findings generally show the Tabor Center has a higher percentage of people in groups (74%) than the Tivoli (56%) during the observation period. The number of people in groups in the Tabor Center increased as time progressed with a significant increase between 12:30 p.m and 1:00 p.m. During the peak time period, 1:00 p.m., 84% of the people in the Tabor site were in groups compared to 55% at the Tivoli site. This increase could have been caused by a large number of women attending a nursing convention visiting the Tabor site during the 1:00 p.m. time period. The proportion of people in groups and individuals at the Tivoli site during the first two time periods remains constant. During the 12:30 p.m. period the largest proportion of people in groups at the Tivoli (64%) was recorded. This proportion dropped during the last observation period to a similar proportion as the two earlier periods.

The Shops at Tabor Center



The Tivoli-Denver

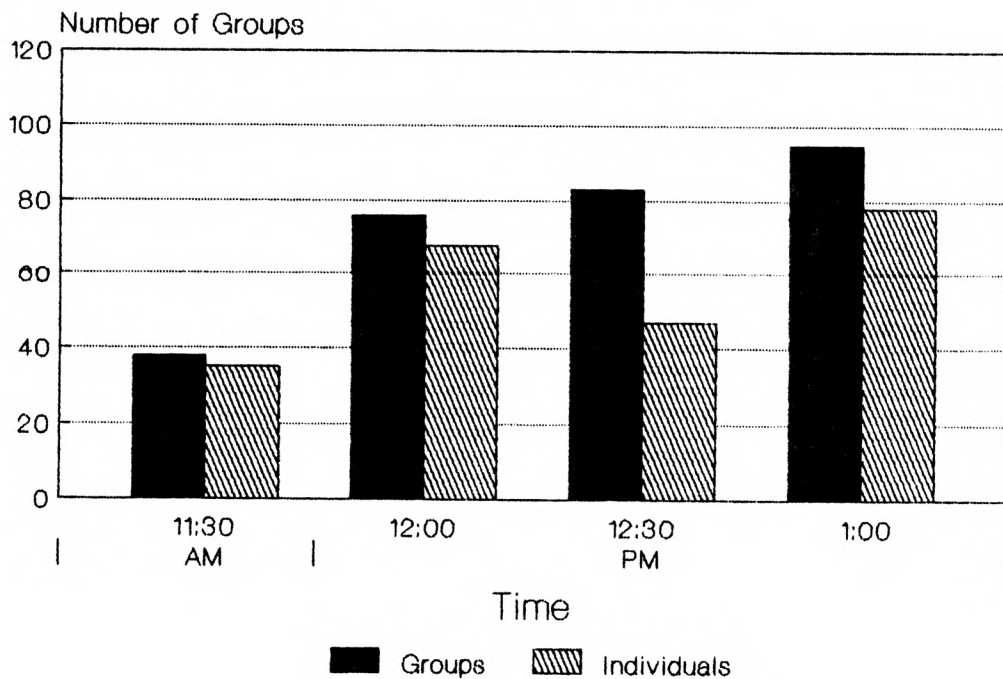


FIGURE 4.14 Graph of Groups of People (Numbers) vs. Time

The number of individuals in the Tabor site tend to decrease steadily as time progressed, yet the number of individuals in the Tivoli remained relatively constant during the observation period. The percentage of people in groups at the Tivoli (56%) and the percentage of individuals (44%) is relatively proportional.

Whyte (1980b) suggests places where a high proportion of people are in groups indicates a measure of selectivity (p. 17). The notion of selectivity demonstrates people have chosen to be in the space with others they know. Being with others enables people to be recognized as members of the community and maintains ones identity or group identity.

ANALYSIS OF THE QUESTIONNAIRE DATA

Focused interviews were necessary to record the users' perceptions and attitudes of the marketplace. The focused interviews allowed a means of determining how closely a user's answer corresponds to his or her actual behavior. The survey results analyzed in the following section will relate closely to the contextual and behavioral analyses. The following section will describe the procedures used to analyze the interview data, examine the general demographics of the sample, discuss questions relating to the contextual analysis, probe the users' perception of how he or she uses the marketplace and discuss the importance of aesthetics and legibility.

Analytical Procedure for the Interview Data

The interviewing was conducted in the summer of 1987 between May 28 and August 19. Two hundred pre-coded interviews were taken (100 per site) with an interviewing time averaging ten minutes and administered

between the hours of 10:30 a.m. to 2:00 p.m. Most of the participants were very glad to take part in the study and seemed interested in the research. Most of the questions asked were coded for ease of administration while comments received beyond the questions asked were noted on the interview form. The responses from the completed questionnaires were re-coded (for open ended questions and other responses) and tabulated for data entry using the database computer program REFLEX, which was used because of its capability in organizing and manipulating survey data as well as the power to cross tabulate data. Cross tabulation presents quick summaries and analysis of information, particularly survey data.

The sample of two hundred interviews included responses from weekday users as well as weekend users. Survey results for all the interviews are coded and tabulated in Appendix B. In order to correlate the interview responses with the behavioral analysis, only the weekend responses will be examined, since the weekends were used when the behavioral mapping was done. The weekend sample consisted of one hundred thirty interviews conducted on Saturday (51) and Sunday (79) with sample sizes at the Tabor site totaling 67 and the Tivoli site 63.

Demographic Analysis of the Sample

The sampling strategy was designed to reflect characteristics typical to the marketplace users. Most of the interviewing took place between 11:30 a.m and 1:00 p.m. (Tabor: 48 [40.3%]; Tivoli: 55 [49.2%]) in order to coincide with the behavioral observation period. The weekend sample included near equal amounts of men and women (Tabor: 35-women, 32-men; Tivoli: 34-women, 29-men). Even though there were more

women observed on the study sites, the interviews were evenly distributed by gender in order to note any differences.

The age of the users was divided among the three age groups. The majority of the marketplace users were adults and young adults comprising 47 (70%) at the Tabor site and 49 (77%) at the Tivoli site. The remaining users were in the teenager/student or retired group. The predominantly young adult group (age 22-30) was the predominant group consisting of 29 (43.3%) at the Tabor site and 32 (50.8%) at the Tivoli site. The young adult and adult age groups strongly represented at both sites signifies the target market age as indicated by T.R. Robinson of the Tivoli-Denver management office (personal interview, May 28, 1987).

Determining marketplace users in upper income brackets can be reflected in an analysis of occupations. Survey results from question 12 suggests the majority of the people interviewed at the Tabor site were in professional or service-oriented occupations than the Tivoli site (Tabor: 40 [59%]; Tivoli: 24 [38%]). The next highest occupation group in terms of numbers at the Tivoli were teenagers/students and retired people 20 (32%) followed by housewife/clerical with 12 (19%). The Tabor site had a greater number of housewife/clerical (15 [22%]) than teenager/students and retired with 10 (15%). Blue collar workers made up the least interviewed occupation group with 2 (4%) at the Tabor site and 7 (11%) at the Tivoli site.

In summary, the general demographic analysis yielded some interesting findings. The predominant age groups interviewed were the adults (age 31-64) and young adults (age 22-31). These two age groups represent the "baby boomers" and the young urban professionals in

upwardly mobile positions. According to Lackman and Martin (1987), baby boomers represent 78 million people, roughly forty percent of the total U.S. population creating a strong market force as people begin reaching their peak earning years. This notion is reinforced by the fact that almost half of the users interviewed (49%) on both sites were in professional or service-oriented positions.

Questions Relating to the Contextual Analysis

The movement of shoppers in an urban area is largely controlled by the competitive relationships among retail areas therefore, the analysis of distances is not a reliable means of establishing the extent of the trade areas. However, it has been determined that "the average person will travel 1 1/2 miles for food, 3 to 5 miles for apparel and household items when selection is not important, and 8 to 10 miles when ranges of selection and price are not important" (McKeever & Griffin, 1977, p. 25). Question 4 asked how far people lived from the study site in order to have some indication of where people live in relation to the site. The general trend indicated a directly proportional relationship between where people lived and the number sampled. As the distance where people lived increased the amount of people sampled also increased. The majority of the users lived 10 miles or more from the sites (Tabor: 27 [40.3%]; Tivoli: 25 [39.7%]). At the Tabor site, 23 (34.3%) and at the Tivoli 18 (28.6%) lived 6 to 10 miles away from the site and even less people lived within 1 to 5 miles (Tabor: 15 [22.3%]; Tivoli: 19 [30.2%]). People who visited the sites did not live very close because only 2.3% of the total sample for both sites lived less than 10 blocks away.

These findings indicate people are willing to travel to the marketplace from areas beyond the downtown area.

When people were asked how far they worked from marketplace 31 of the participants worked more than 10 blocks away for the Tabor site (46%) and 29 for the Tivoli site (46%). Nine people (13.4%) interviewed at the Tabor site worked within 5 blocks of the site whereas only one person (1.6%) at the Tivoli site worked less than 5 blocks away. These findings indicate that more participants work closer to the Tabor site than the Tivoli yet, most of the participants (46%) on both sites worked more than 10 blocks away. The importance of locating the marketplace near the working place appears to not be a significant factor during weekend use.

Questions Relating to Activities

The most applicable data used to analyze sociability in the marketplace are the responses to the type and frequency of activities the users take part in. The participants were asked a series of questions pertaining to activities in the marketplace the results were tabulated (see Table 4.8). Interview questionnaire data can be used to compare the users' answers concerning marketplace activities with the observed data previously mentioned in this chapter. This is based on the premise that what people do and what they say they do are usually different. Question 8 asked if the participant ever engaged in any of the following activities at the particular site. The activities indicated on Table 4.8 represented a mixture of potential marketplace activities. The participants were given a response range of 1 through 5

with 1 and 2 being a negative response, 3 as an uncertain response, and 4 and 5 as positive responses.

The top three responses for both sites were people-watching, eating, and sitting. The number one activity response at the Tabor site was people-watching (60 [90%]), followed closely by eating (59 [89%]). Whyte (1980b) mentions that the number one activity in a social place is people-watching and he also suggests that one of the principle needs of a successful indoor space is the provision of food (p. 76). People-watching and eating were also highly responded to at the Tivoli site (people-watching: 55 [87%]; eating: 50 [79%]).

QUESTION 9: Do you ever do any of the following activities here?						
ACTIVITY DESCRIPTION	T A B O R			T I V O L I		
	NO	UNCERTN	YES	NO	UNCERTN	YES
Enjoy the Sun	21 (31%)	12 (18%)	34 (51%)	33 (52%)	7 (11%)	23 (36%)
Watch People	0	7 (10%)	60 (90%)	3 (5%)	5 (8%)	55 (87%)
Watch Entertainers	17 (26%)	39 (58%)	11 (16%)	18 (29%)	26 (42%)	19 (30%)
Eat	3 (4%)	5 (7%)	59 (89%)	11 (18%)	2 (3%)	50 (79%)
Sit and Relax	10 (15%)	2 (3%)	55 (82%)	3 (5%)	4 (6%)	56 (89%)
See Movie	0	0	0	0	0	7 (11%)
Other	0	0	0	0	0	3 (5%)
SAMPLE SIZE	n = 67			n = 63		

TABLE 4.8 Activity Responses – Weekend Use

Another highly rated activity was sitting. The findings indicate a positive response to sitting on both sites (Tabor: 55 [82%]; Tivoli: 56 [89%]). However, when comparing these findings with the observed behavioral data, only 15% of the observed users were sitting at the Tabor site and 9% at the Tivoli site. The discrepancy between the questionnaire data and the observed data appears to support the notion of people saying they participated in an activity and actually doing it. One assumption may be that people may have been sitting in the food court area which was outside the limit of the observation study area.

The enjoyment of sunshine is an activity which could add to the use of indoor atrium spaces. The KMD (1985) study asked questions on sunshine in which sunshine preference was not given as a major reason for liking outdoor spaces with indoor spaces yielding a lesser response. Whyte (1980b) could not find a relationship between the use of the space and the exposure to the sun. Users at the Tabor site responded positively when asked if they enjoyed the sun at the site (34 [51%]) compared to the Tivoli site where 23 (36%) responded positively. Users at the Tivoli site responded more negatively (33 [52%]) than the Tabor site (21 [31%]). People obviously enjoy the sun which could be attributed to the configuration of the atrium. The Tabor site has a single-sided linear layout with a southerly exposure as opposed to the four-sided enclosed layout at the Tivoli. The Tabor interior allows more light than the Tivoli which perhaps influenced the positive responses.

Questions Relating to Aesthetics and Legibility

The popularity of urban spaces in terms of aesthetics is difficult to measure. Whyte (1980b) suggests "the most successful (plazas) would tend to be the most pleasing visually" (p. 24). The visual quality of the marketplace has been featured in contemporary urban marketplaces particularly festival marketplaces. Question 10 asked the participants to rate the overall attractiveness of the marketplace on a scale of 1 to 5 with 5 being the best rating. The findings indicate the two spaces rated as being very attractive yielding a positive response averaging 4.4 for the Tabor site and a 4.2 for the Tivoli site. The Tabor site had the largest number of 5 ratings, 29 (43%) with the Tivoli having 18 (28.6%) indicating a stronger appeal to the users. These findings suggest that people are aware of the attractive qualities of the marketplace despite the fact that the visually pleasing design of the marketplace has little or no relationship to how the spaces are used (Whyte, 1980b, p. 26).

When people were asked how they would rate the attractiveness of the storefronts, the overall average response were nearly equal (Tabor- 4.1 average; Tivoli- 4.0 average). The number of 5 ratings were nearly equal as well (Tabor: 19 [28.4%]; Tivoli: 20 [31.7%]). The number of 4 ratings were greater at the Tabor site, 35 (52%) than the Tivoli site with 22 (35%). Less than one percent of the total sample rated the attractiveness of the storefronts a 2 or less. The importance of understanding what people feel is an attractive place is a significant aspect for the success of a social marketplace.

Legibility refers to manner in which the visual quality of the space allows for the ease of movement and recognition through organized physical design. The layouts of the space dictates pedestrian movement and influences activities within. Question 11 asks for the participant to rate the marketplace on how easy it is to find their way around the space. This question hints at rating the functional aspects of legibility. The overall findings indicate a medium rating (on a scale of 1 to 5 with 5 being the best) averaging 3.7 at the Tabor site and 3.5 at the Tivoli site. The highest rating of 5 yielded a similar number and proportion of response on both sites (Tabor: 12 [17.9%]; Tivoli: 11 [17.5%]). The rating of 4 was given the most frequently at the Tabor site, 28 (42%) then at the Tivoli site 16 (25.4). Ten percent of the total sample rated the sites as having a poor rating of 2 or less.

The two spaces are rated highly as attractive spaces both in terms of overall and specifically storefront attractiveness. People are becoming more aware of their physical environment therefore the need exists to understand their perceptions on how the space appeals to them aesthetically as well as functionally.

Questions Relating to Store Use

The retail tenant mix is directly related to the target market in which the marketplace is planned to capture. Festival marketplaces have target markets ranging from captive and drive-by patrons to destination shoppers drawn from a wide area (Cigliano & Witherspoon, 1985, p. 16). The most productive placement of key tenants or anchors depends on the convenience to the shopper (near major entry points), proximity to pedestrian shopper circulation paths in order to induce impulse buying,

and the appropriateness to the marketplace concept. In festival marketplaces, analyzing the shoppers' store preference should be considered.

Table 4.9 illustrates the responses of the participants when asked if they shopped that day at the stores listed. The data was then ranked by preference (see Table 4.10) in order to determine which stores were more frequently used. According to the Urban Land Institute (1987), The top three most frequently found tenants in U.S. shopping centers are ladies ready-to-wear apparel, jewelry stores and fast food establishments. The findings indicate the number one ranked store type patronized at the Tabor site was a specialty/gadgets store (75%). The number one ranked store at the Tivoli site was clothing with 66% which was the number two ranked store at the Tabor site (61%). Fast food were ranked second at the Tivoli site (41%) and third at the Tabor site (58%) which supports the activity data previously mentioned in this chapter.

Most of the fast food establishments on both sites were located in food courts on the third level of the marketplace. Spink (1987) suggests that food courts can be considered as anchor tenants with drawing power similar to that of a department store and for some shoppers, the quality of the food courts is an important factor when choosing where to shop. Mobile vendors or pushcarts were mentioned by the participants in the "other" category. Their responses merit mentioning because 21% of the people at the Tabor site and 10% at the Tivoli site said they visited the pushcarts suggesting they are significant places that people patronize.

STORE DESCRIPTION	T A B O R		T I V O L I	
	NUMBER	PERCENT	NUMBER	PERCENT
Did not Shop	9	13%	9	14%
Fast Food	39	58%	26	41%
Sporting Goods	17	25%	23	36%
Clothing	41	61%	42	66%
Specialty/Gadgets	50	75%	25	40%
Restaurant/Bar	2	3%	11	18%
Book Record	25	37%	22	35%
Luggage	24	36%	3	5%
Gift	27	40%	25	40%
Jewelry	16	24%	20	32%
Mobile Venders	14	21%	6	10%
Other	4	6%	3	5%

SAMPLE SIZE n = 67 n = 63

TABLE 4.9 Type of Store Patronized – Weekend Use

STORE DESCRIPTION	T A B O R		STORE DESCRIPTION	T I V O L I	
	RANK	PERCENT		RANK	PERCENT
Specialty/Gadgets	1	75%	Clothing	1	66%
Clothing	2	61%	Fast Food	2	41%
Fast Food	3	58%	Gift	3	40%
Gift	4	40%	Specialty/Gadgets	3	40%
Book Record	5	37%	Sporting Goods	4	36%
Luggage	6	36%	Book Record	5	35%
Sporting Goods	7	25%	Jewelry	6	32%
Jewelry	8	24%	Restaurant/Bar	7	18%
Mobile Venders	9	21%	Mobile Venders	8	10%
Other	10	6%	Luggage	9	5%
Restaurant/Bar	11	3%	Other	9	5%

TABLE 4.10 Rankings of Stores Patronized – Weekend Use

The placement of these store types in the marketplace layout is very important to the retail concept. For the purposes of this study, the users preference was analyzed to see if there was any relationship with the type of store visited and the placement of the store to large concentrations of people. Brookstone, a specialty/gadgets store located on the first level of the Tabor site, had a large group of people gathered near the storefront which implies that it draws patrons. This notion is supported by the high interview responses for specialty/gadgets stores. Both sites have food courts which area located at the top level of the space acting as "mini-anchors" and destination points.

CHAPTER SUMMARY

In conclusion, the analytical approaches and use of the marketplace criteria presented in this chapter provide a systematic means of examining and presenting the data. In determining the marketplace design approach to stimulate social interaction as well as the implementation of appealing retail elements, the findings suggest that the Tabor site appears to be more successful than the Tivoli site. The contextual analysis yielded some interesting correlations as to the location of the marketplace and the use of the entrances. The findings imply that a marketplace located near large concentrations of people (such as the Tabor site), results in more people visiting the space. The heaviest use of entrances, particularly those located near busy streets and corners, can be used as an indicator of use within the marketplace. The contextual analysis served as a method to investigate how the marketplace was designed to reflect the urban surroundings in

terms of location and site access points which ultimately attracts users into the space.

The focus of the behavior mapping and interview questionnaire analyses was to examine the range of activities by and perceptions of the users in the marketplace. Certain activities were analyzed both through the use of behavioral mapping and through interviewing in order to compare the results. In general, the Tabor site emerges as being the more sociable space. The number of people sitting can suggest a measure of sociability because sitting fosters other social activities such as people-watching and conversation. The use of edges as places to stand and appreciate amenities or watch other people, particularly if the edges are near corners or transitional areas, implies another measure of sociability. In terms of demographics, the more successful marketplace appeared to attract a greater proportion of women than men and a greater proportion of people in groups rather than individuals. Both sites attracted a large percentage of adults and young adults employed in professional or service-related occupations. People in both places seem to be aware of aesthetic quality of the spaces giving each a high rating for overall attractiveness and legibility. Specialty shops, clothing stores and fast food establishments are the most patronized stores on both site therefore careful consideration must be given when placing these stores in the marketplace layout. People responded positively to liking the sunshine within the space. These overall analytical observations will be developed in greater depth in the next chapter.

CHAPTER FIVE: CONCLUSIONS AND PRACTICAL APPLICATIONS

This study has examined the interior portions of two urban marketplaces in order to evaluate their designs using two major factors of criteria: (1) a positive environment for social interaction and (2) the implementation of retail elements offering or producing a high degree of appeal to the users. The following results of this study will clarify the need for urban designers to understand how people use the urban marketplace and what physical design elements contribute to their experience. The next section deals with the applications of the results for the improvement of the existing sites and finally, the last section describes directions for future research.

Major Conclusions and Results

Through a systematic analysis of the data, nine major points for a successful marketplace were revealed. These major points are based on the data collected from the two study sites. First, all nine points are listed below and then each is discussed in greater detail:

1. The location of the marketplace relative to large concentrations of people is the most important factor influencing the success of the space.
2. Entrances located along streets or near street corners adjacent to heavily used pedestrian circulation flows provide critical access points from areas of large concentrations of people.
3. The urban marketplace should have a linear architectural orientation and should be highly visible from the street.

4. Successful marketplaces have ample seating in strategically located places fostering other social activities.
5. The layout of the successful marketplace incorporates edges overlooking large open spaces promoting people standing near these edges which in turn stimulates other social activities.
6. The marketplace should provide food and places to eat.
7. The placement of key stores or anchors near pedestrian shopper traffic augments the stores appeal and stimulates use.
8. The sociable marketplaces contain a greater proportion of women than men and a greater proportion of people in groups rather than individuals.
9. Marketplace users prefer a visually attractive environment with optimum solar exposure.

The first point acknowledges the marketplace location near large concentrations of people as the most important factor which dictates the success of the place. Without a good location, it is difficult to attract people. Whyte (1980b) insists that location is the most important design factor contributing to a social place. The findings indicate that the Tabor site has the better location in terms of proximity to large concentrations of people and other mutually supporting uses, therefore it is the most successful. The Tivoli site on the other hand, does not have a nearby source of people to draw from, other than the Auraria campus which is generally empty on weekends.

The next point suggests that key entrances into the marketplace should be located near street or street corners with active pedestrian flows. The analysis findings of the entrances confirms this point by indicating a greater number of people using the entrances at the Tabor site. Whyte (1980b) argues that the street corner stimulates impulse use when the person can clearly see the place from the corner or

street. Three key entrances located on busy street corners along the 16th Street Mall were quite successful. The 16th Street Mall is probably the greatest generator of people in the downtown area (90,000 people daily) and has developed as downtown Denver's main shopping artery. Whyte (1980b) states "the one time they [entrances] function well is when they are very crowded" (p. 79). The entrances into the marketplace are indicators of use within, therefore they should be highly accessible allowing for the passage of 300 people per hour minimum during peak use periods. The three key entrances met or exceeded this rate with the average flow of people using all entrances during the observation period was 272 people per hour for the Tabor site compared to the low rate at the Tivoli site (25 people/hour).

The third point reflects the need to create a marketplace having a linear layout configuration stressing openness and visibility from the street. Whyte (1980b) argues that "a good internal space should not be blocked off by bland walls" (p. 79), but should have a strong relationship to the street. The contextual analysis noted that the Tabor site has a strong linear configuration with a highly transparent glass curtain wall creating a strong alliance with the street. The linear layout also creates opportunities for verticality through level changes while maintaining a distinct relationship to the street. Both sites have multiple levels however the layout of the Tabor site generates more linear feet of edges with railings oriented towards the open space and street.

The fourth point stresses the importance of seating in the marketplace. The Tabor site is the more successful place in terms of

the use, amount and orientation of seating. Whyte (1980b) recommends one linear foot of seating for every 30 square feet of open area as optimum for indoor spaces. The results indicate that the Tabor site has more linear feet of seating (1 foot of seating per 91 sq. ft. of open area) compared to the less successful Tivoli site (1 foot per 561 sq. ft.). More people observed at the Tabor site (341 [15%]) were sitting compared to 70 (9%) at the Tivoli site. When people were asked if they sat in the space, 82% of the users at the Tabor site said they did while 89% at the Tivoli site said they did also. The orientation and location of the seating (in both cases benches) was better at the Tabor site. Seating was oriented towards the pedestrian corridors focusing on people as they walked. People used all the benches on the site particularly those near corners or the fountain area. In short, people will sit where there is a place provided (Whyte, 1980b) and good seating provides freedom of choice and orientations which foster a good view of activities.

The next point deals with the use of edges to promote social interaction. The "edge effect" is the phenomenon observed when people migrate near the edges of pedestrian corridors. Edges stimulated pockets of concentrated use (predominantly people standing) particularly along railings overlooking the large atrium area and corners. The aggregate dot maps illustrate this point clearly. Both sites exhibited the "edge effect" with 20% of the people observed standing near an edge particularly overlooking the atrium areas.

The significance of the sixth point is supported by the findings and Whyte's (1980b) statement that "every successful indoor space provides

food" (p. 76). On-site food areas and mobile food vendors (pushcarts) are essential to the success of the urban marketplace. People on both sites responded positively to when asked if they ate at the marketplace (Tabor-89%; Tivoli-79%). In terms of the type of stores patronized, people at the Tabor site ranked fast food third with 58% of the people interviewed engaged in eating activities compared to the Tivoli site where fast food ranked second in popularity but only 41% responded positively. The high preferences for food establishments in the marketplace leads one to believe they act as destination points attracting lots of people. The consolidation of fast food places into a centralized food court can create a mini-anchor for the marketplace.

The next point considers the location of certain stores, specifically specialty/gadget stores, clothing stores, and fast food establishments, and how they enhance the shopping experience. The behavior mapping analysis, together with the interview data indicate a preference for these stores. Strategically placing the food courts at the top levels creates a destination point and "mini-anchor" drawing people through the other levels. Although determining the tenant mix is a very complex process that is undertaken by marketing professionals, the designer needs to know which stores draw the most people and design the amenities accordingly.

The findings support the eighth point, which stresses Whyte's (1980b) notion that sociable places contain a greater proportion of women than men and a greater proportion of people in groups than individuals. This does not imply that urban designers should orient the design of the marketplace specifically to the likes and dislikes of

women, but merely points out that successful places can be measured by the proportion of each. The findings indicate that Tabor site having a slightly more women than men (61%) than the Tivoli site (58%). Women tend to sit more than men at the Tabor site (women- 232 [16%] vs. men- 109 [12%]) and women tend to window shop more than men (women- 458 [32%] vs. men- 244 [27%]). Women tend to be choosier than men with respect to the places they visit and activities they participate in. The proportion of people in groups at the more successful Tabor site, was much higher (74%) than the Tivoli site (56%). People in groups indicates a measure of selectivity in that the groups have demonstrated they have chosen to be in the marketplace with others.

The final point emphasizes the need to create a visually appealing marketplace with good solar exposure. Professionals in upper income brackets pay attention to details and are thus very aware of their surroundings. The findings indicate the average rating given for the overall attractiveness of the space was 4.4 (on a scale of 1 to 5) for the Tabor site and 4.2 for the Tivoli site. Both sites are very attractive spaces however, people at the Tabor site did have the largest number of 5 ratings (29 [43%]) compared to the Tivoli site with 18 (28.6%).

These points represent the major points resulting from this research effort. These points reflect the characteristics of a successful urban marketplace through a positive environment for social interaction as well as how the design response exhibits the implementation of retail elements offering or producing a high degree of appeal to the users. For the most part, the Tabor site is the more successful marketplace

because the design reflects a majority of the factors need to be a successful place. The methods and guidelines for social plazas and parks outlined by William Whyte were used as the framework for evaluating these two sites. The implications of this study could be used for the design of future marketplaces placing more emphasis on the social needs of people. Achieving a sense of quality and a sensitivity to the social and retail needs of the marketplace users should generate urban spaces with a new spirit and vibrancy of the city.

Directions for Practical Applications

Through the course of conducting this research, it became apparent that there are successful marketplaces and those not so successful. The Tabor site was proven to be quite successful both from a sociability standpoint as well as economically. This success was due not so much because of the site's attractive architectural qualities or amount of seating, but because the site has a great location. Location is the single most important factor because without a good location, all other factors contributing to a successful marketplace become insignificant. The Tabor site however, can still be improved by adding more places to sit particularly near the railing edges overlooking the open atrium.

The Tivoli site is a very attractive space with plenty of places to eat, yet it lacks exposure to large concentrations of people and other mutually supporting retail uses. Attempts have been made by the management to bring more people from the downtown area via a free shuttle bus however it still is not enough to bring sufficient numbers of people to the site. The interior of the Tivoli could be improved by adding more seating near the railings, incorporate a water feature of

some kind, and add a specialty/gadget type store to the retail mix. If the designers could have considered a linear configuration instead of the central atrium configuration, the space would have related better to the street and perhaps tied into the campuses pedestrian system.

The urban marketplace needs other urban spaces such as hotels, offices, residential, convention or cultural centers and transit stations to provide support and create a strong market synergy for the downtown area. Recommendations to improve the Tivoli site, physically would require major remodeling with limited effect because of the poor proximity to large concentrations of people. More practical recommendations include establishing a strong pedestrian-oriented open space system connecting the Tivoli to the CBD area. Another recommendation would be to provide flexible mixed-use zoning to allow for a variety of uses and reinforcing the mass transit system to encourage high density destination points.

The need for well designed, sociable spaces provides an interesting contrast to dull neglected space in the urban environment and increase the richness and quality of life in the city. The urban marketplace if properly designed can provide a distinctive retail environment showcasing urban development at its best. Successful marketplace design depends on a good location with respect to sources of people and market demand. Other factors include: good pedestrian access and a linear spatial configuration; an appealing visual quality; and the implementation of physical design elements which stimulate social interaction.

Recommendations for Future Research

This study has revealed many other opportunities for future research in the area of urban marketplace design. The urban marketplace has been linked to several downtown revitalization projects therefore the importance of designing successful spaces is justified. Since few post occupancy evaluations exist which deal with the social aspects of urban spaces, this topic should be addressed in greater depth.

This study could be focused further by examining one site in greater depth and perhaps information gathered from one source may result in other conclusions concerning the design of the urban marketplace. Information gathered from different metropolitan areas may yield different results. The issue of private versus public open space and "social filtering" would make an interesting study particularly when so many people feel the marketplace is a private space which excludes or filters certain individuals or groups of individuals. Other potential studies can focus on improving the methodology such as digitizing the behavior maps and applying a geographic information system program to manipulate the data in order to further enhance the results of this study and verify William Whyte's work.

Urban spaces based on some historic legacy such as the Tabor and Tivoli sites could be examined for their appropriateness in the urban environment or whether or not the surrounding development is sensitive to the building's historic significance. The marketing aspects of site selection for the urban marketplace could be a potential research topic or the comparisons of suburban shopping centers with the urban marketplace in terms of sociability could be explored. In conclusion,

the need still exists to build on the existing body of knowledge in order to elevate the environmental design professions' capacity to deal with the future of our cities.

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APPENDIX A
The Interview Questionnaire

QUESTIONNAIRE: URBAN MARKETPLACE STUDY

Site: _____ Day: _____ Time: _____ AM or PM

Introduction:

"Excuse me, may I have a minute of your time? I'm a graduate student in landscape architecture doing research on shopping center design and I'd like your opinion about this place. Answering these questions should take less than 3 minutes."

(1) Can you tell me why you came to (site name) _____?
Response: _____

(2) How often do you come here?
_____ (4) Almost every working day
_____ (3) Once or twice a week
_____ (2) A couple of times a year
_____ (1) Rarely or never
_____ (0) Other _____

(3) How far do you work from here?
_____ (5) Less than 3 blocks
_____ (4) 3 to 5 blocks
_____ (3) 6 to 10 blocks
_____ (2) More than 10 blocks
_____ (1) Don't work, no response

(4) How far do you live from here?
_____ (5) Less than 3 blocks
_____ (4) 3 to 10 blocks
_____ (3) 1 to 5 miles
_____ (2) 6 to 10 miles
_____ (1) 10 miles+

(5) How did you get here?
_____ (4) Walking
_____ (3) Automobile
_____ (2) Public transportation
_____ (1) Other _____

(6) On a scale of 1 to 5, (with 5 being the best), how much do you like the attractiveness of the storefronts here?
_____ write number down
_____ no response

(7) If you were downtown at a different time, and had some spare time, would you come here?

DW Y U N DN
____ _

[Coding: DW=Definitely Would(5); Y=Would(4); U=Uncertain(3); N=No(2); DN=Definitely Would not(1)]

QUESTIONNAIRE: URBAN MARKETPLACE STUDY (cont.)

(8) Do you ever do any of the following activities here?

	DY	Y	U	N	DN
Enjoy the sun	___	___	___	___	___
Watch people	___	___	___	___	___
Watch entertainers	___	___	___	___	___
Grab a bite to eat	___	___	___	___	___
Come in out of the wind or rain	___	___	___	___	___
Sit and relax	___	___	___	___	___
Other _____	___	___	___	___	___

[Coding: DY=Definitely Yes(5); Y=Yes(4); U=Uncertain(3); N=No(2); DN=Definitely No(1)]

(9) Did you shop at the following stores today?

Yes-No (2-1)
_____ Did not shop
_____ Fast food establishment
_____ Sporting goods store
_____ Clothing store
_____ Specialty or gadgets store
_____ Restaurant or bar
_____ Book or record store
_____ Luggage store
_____ Gift or craft store
_____ Appliance or jewelry store
_____ Other store _____

(10) On a scale of 1 to 5, (with 5 being the best), how much do you like the overall attractiveness of this place?

_____ Write down number
_____ No response

(11) On a scale of 1 to 5, (with 5 being the best), how easy is it to find your way around this place?

_____ Write down number
_____ No response

(12) What is your occupation? _____

(13) What age group do you fall under?

_____ 17-21 (teenager/student)
_____ 22-30 (young adult)
_____ 31-64 (adult)
_____ 65+ (retired)

"Thank you for your time"

OBSERVATIONS:

Sex: _____ Male
_____ Female

APPENDIX B

The Survey Results

KEY TO THE QUESTIONNAIRE RESULTS

Day Responses:	1 = Sunday	Time Responses:	1 = 10:30-11:30 a.m.
	2 = Monday		2 = 11:30-1:00 p.m.
	3 = Tuesday		3 = 1:00-2:00 p.m.
	4 = Wednesday		
	5 = Thursday	Sex Responses:	1 = Female
	7 = Saturday		2 = Male

Age Responses:

- 1 = Retired
- 2 = Adult
- 3 = Young Adult
- 4 = Teenager/Student

Question 1 Responses:

- 1 = Lunch & Shopping
- 2 = Lunch
- 3 = Shopping
- 4 = Meeting Friends
- 5 = Visiting with Family
- 6 = Visiting/Walking By
- 7 = Movie & Lunch
- 8 = Movie & Shopping
- 9 = Tourist
- 10 = Came from Tabor Center
- 11 = Other Reason
- 12 = Atmosphere

Question 2 Responses:

- 0 = Monthly
- 1 = Rarely/Never
- 2 = A Couple of Times a Year
- 3 = Once or Twice a Year
- 4 = Almost Every Day

Question 5 Responses:

- 0 = Bicycle
- 1 = Tivoli/Tabor Center Shuttle Bus
- 2 = Public Transportation
- 3 = Automobile
- 4 = Walking

Question 7 & 8 Responses:

- 1 = Definitely Would/Yes
- 2 = Would/Yes
- 3 = Uncertain
- 4 = No
- 5 = Definitely Would Not/No

Question 9 Responses:

- 2 = Yes

KEY TO THE QUESTIONNAIRE RESULTS - (cont.)

Question 12 (Occupation) Responses: 1 = Professional
 2 = Student
 3 = Retired
 4 = Clerical
 5 = Housewife
 6 = Service-Oriented
 7 = Blue Collar

THE SHOPS AT TABOR CENTER and THE TIVOLI
MARKETPLACE STUDY - SURVEY RESULTS

SITE	DAY	TIME	SURJ	SEX	AGE	DCC	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	WATCH	WATCH EN	RITE	IN OUT	SIT	SEE H	NIGHT	Q9 N	FAST	SPORT	CLOTH	SPECIAL	REST	BOOK	LUGG	GIFT	JEWEL	PUSH	TOYS	OTHER	Q10	Q11		
Tabor	5	1	1	2	4	2	4	4	1	3	2	3	5	5	5		4	4	3	4									2							3	5	
Tabor	5	1	2	2	4	1	9	1	2	1	2	5	5	2	4		2	2	3	3					2	2			2	2						5	4	
Tabor	5	1	3	2	1	3	9	1	1	1	1	2	3	4	4		2	2	3	2					2	2			2	2						3	3	
Tabor	5	1	4	2	2	7	10	2	2	2	1	5	4	4	4		4	4	3	4					2	2			2	2						4	5	
Tabor	5	1	5	2	1	3	3	2	1	3	2	3	3	2	4		3	2	3	4					2	2			2	2						5	3	
Tabor	5	1	6	2	2	1	3	3	3	1	1	4	3	4	4		3	4	4	4					2											4	5	
Tabor	5	1	7	2	3	1	9	1	2	1	3	5	4	4	5		3	4	3	5			2		2	2			2	2	2	2				5	4	
Tabor	5	2	8	1	2	1	3	1	2	1	3	4	3	4	4		2	2	3	4					2	2			2	2	2	2				4	3	
Tabor	5	2	9	1	1	5	3	2	1	2	2	5	3	2	4		3	4	3	2					2	2			2	2	2	2	2				4	3
Tabor	5	2	10	1	2	5	2	0	3	1	2	4	4	4	4		2	5	4	2			2		2	2					2	2				5	3	
Tabor	5	2	11	1	3	1	2	3	3	2	2	5	4	4	4		2	3	4	5					2											4	3	
Tabor	5	2	12	2	2	6	1	4	5	1	4	4	4	4	5		4	5	4	4			2	2					2							5	5	
Tabor	5	2	13	1	3	4	1	3	5	3	4	5	3	4	3		3	5	4	4			2		2											4	5	
Tabor	5	2	14	1	3	5	3	3	1	5	4	4	1	2	4		4	3	2	4					2											5	3	
Tabor	5	2	15	2	3	1	2	3	4	2	2	4	4	4	4		2	5	5	5			2	2												4	5	
Tabor	5	2	16	1	3	1	1	0	2	3	3	5	4	4	3		2	4	3	3					2	2					2					5	3	
Tabor	5	2	17	2	3	1	2	3	5	3	4	3	3	4	4		2	5	4	3			2													4	3	
Tabor	5	2	18	1	3	4	2	4	4	1	2	4	4	4	4		3	5	3	4			2	2												4	3	
Tabor	5	3	19	1	3	1	4	3	5	2	4	5	2	5	5		4	5	4	5			2													5	4	
Tabor	5	3	20	2	3	1	2	4	5	1	4	3	3	4	4		3	4	3	4			2				2									3	4	
Tabor	7	1	21	1	3	6	4	2	2	3	0	4	5	5	4		4	4	3	4					2				2							5	3	
Tabor	7	1	22	2	4	2	11	3	1	3	0	4	5	5	5		3	5	5	5			2	2												5	5	
Tabor	7	1	23	2	3	1	9	1	1	1	3	5	1	3	4		2	5	3	4			2	2	2	2			2	2	2	2				4	2	
Tabor	7	1	24	2	4	6	2	3	5	3	2	4	4	3	4		3	5	3	2			2													5	5	
Tabor	7	1	25	2	3	1	11	3	4	1	0	5	5	5	5		3	5	4	4			2	2												5	4	
Tabor	7	1	26	2	3	6	11	2	3	2	2	4	3	5	5		3	3	3	4					2	2										3	3	
Tabor	7	1	27	1	3	4	11	1	2	1	4	4	2	2	4		3	4	2	4					2	2				2						4	2	
Tabor	7	1	28	1	3	4	9	1	2	1	3	4	3	2	4		3	4	3	4			2		2	2			2	2	2	2				5	3	
Tabor	7	1	29	1	4	6	4	3	3	1	3	3	5	5	5		3	4	3	5			2			2										4	4	
Tabor	7	1	30	1	3	6	4	0	2	1	2	3	4	3	4		3	5	3	4				2	2											5	4	
Tabor	7	2	31	2	3	1	5	2	2	1	3	4	4	3	5		3	5	4	5			2													4	4	
Tabor	7	2	32	2	1	6	1	2	2	1	3	5	4	3	4		3	5	3	4			2						2							5	4	
Tabor	7	2	33	2	2	1	5	2	2	1	3	5	5	4	5		5	4	3	4			2		2											5	3	
Tabor	7	2	34	2	2	1	9	1	1	1	3	3	2	2	3		3	4	3	4			2													4	3	
Tabor	7	2	35	2	2	1	9	1	1	1	3	4	1	5	5		2	4	3	4			2	2	2											4	3	
Tabor	7	2	36	2	2	1	5	1	2	1	3	5	3	4	4		2	4	3	4			2		2	2			2		2					4	4	
Tabor	7	2	37	1	4	4	1	2	2	1	3	4	5	5	5		3	4	3	5			2		2	2						2	2			5	5	
Tabor	7	2	38	1	3	4	2	3	4	2	4	3	4	4	4		2	5	2	4			2													4	3	
Tabor	7	2	39	1	2	6	9	1	1	1	3	5	3	2	4		2	4	2	4			2				2		2							4	5	
Tabor	7	2	40	1	2	6	3	2	2	2	3	3	3	4	3		3	4	3	4			2		2	2					2					4	5	
Tabor	7	2	41	1	3	4	10	3	3	2	4	4	4	2	4		2	4	4	4					2	2			2	2	2					4	3	
Tabor	7	3	42	2	3	6	3	2	2	1	3	3	4	2	4		3	4	3	5			2													4	4	
Tabor	7	3	43	2	4	1	3	2	2	3	2	4	3	2	4		3	4	3	4			2		2											5	4	
Tabor	7	3	44	2	2	1	2	4	5	5	4	5	5	5	5		3	5	4	5			2	2												5	5	
Tabor	7	3	45	1	2	3	3	1	1	1	3	4	2	2	4		3	3	3	4						2										4	2	
Tabor	7	3	46	1	2	5	3	0	1	2	3	4	2	2	3		3	4	3	4					2	2										4	3	
Tabor	7	3	47	1	4	2	3	3	2	1	3	4	5	4	5		3	4	3	4			2		2						2					5	4	
Tabor	7	3	48	1	3	6	3	2	3	2	2	4	3	3	3		4	4	3	4						2											4	2

SITE	DAY	TIME	SURJ	SEX	AGE	DCC	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	WATCH	WATCH EN	BITE	IN OUT	SIT	SEE N	NIGHT	Q9 N	FAST	SPORT	CLOTH	SPECIAL	REST	BOOK	LUGG	GIFT	JEWEL	PUSH	TOYS	OTHER	Q10	Q11			
Tivoli	1	1	101	1	3	4	4	3	2	2	3	3	3	2	4	3	4	2	4				2													4	3		
Tivoli	1	1	102	1	3	4	9	1	2	1	3	5	2	2	4	2	4	3	4					2		2			2	2						4	3		
Tivoli	1	1	103	1	3	1	3	2	2	3	3	5	3	2	4	2	4	3	4																	4	2		
Tivoli	1	1	104	1	3	1	1	2	2	1	3	4	4	2	5	3	4	3	4				2		2				2							5	4		
Tivoli	1	1	105	1	3	4	3	1	3	2	1	4	4	2	4	4	4	3	4					2	2											4	5		
Tivoli	1	1	106	1	4	2	9	1	1	1	3	5	5	4	5	3	5	3	5						2	2				2	2	2				5	4		
Tivoli	1	1	107	2	2	1	3	2	2	1	3	4	1	1	3	2	4	2	4					2	2	2			2			2	2				5	5	
Tivoli	1	2	108	1	2	5	1	1	1	2	3	4	3	2	2	3	4	3	2					2		2							2	2			3	3	
Tivoli	1	2	109	2	4	2	2	4	1	2	4	5	4	4	4	5	5	3	4				2														5	5	
Tivoli	1	2	110	2	2	6	9	1	1	1	1	5	4	2	4	3	2	2	4					2	2	2	2	2									5	3	
Tivoli	1	2	111	2	2	1	2	0	3	3	1	5	4	4	4	3	4	4	3			5	2	2													5	5	
Tivoli	1	2	112	1	2	1	2	3	1	4	1	5	4	5	4	4	4	3	4						2		2						2				4	5	
Tivoli	1	2	113	2	3	2	4	0	1	2	4	3	4	2	4	4	4	3	4				2	2													4	5	
Tivoli	1	2	114	2	3	1	2	3	3	2	1	4	5	2	4	4	4	4	4				2					2									5	2	
Tivoli	1	2	115	1	3	2	11	3	1	3	0	5	5	4	4	4	5	5	5		5			2								2					4	4	
Tivoli	1	2	116	1	3	1	2	2	2	3	3	4	4	3	2	3	4	3	4						2		2			2	2						4	3	
Tivoli	1	2	117	1	3	4	10	3	3	3	1	2	4	4	4	5	4	4	3							2											3	2	
Tivoli	1	2	118	1	1	3	3	2	1	3	0	4	4	5	5	4	4	4	4		5			2	2												4	2	
Tivoli	1	2	119	1	3	4	3	2	2	3	3	5	2	4	4	2	4	3	4			5			2	2											5	4	
Tivoli	1	2	120	1	3	5	4	2	1	2	3	4	2	2	3	2	5	3	4					2	2	2					2	2					4	3	
Tivoli	1	2	121	1	3	1	4	2	3	3	2	5	4	4	4	2	5	2	4				2	2	2	2											5	4	
Tivoli	1	2	122	1	3	2	4	2	2	1	3	3	4	2	4	3	3	3	5					2		2											4	3	
Tivoli	1	2	123	1	2	5	9	1	1	1	3	5	2	4	4	2	4	3	4					2	2												4	2	
Tivoli	1	2	124	1	3	5	9	1	1	1	2	4	2	2	3	3	4	2	4				2		2		2		2	2							3	3	
Tivoli	1	3	125	2	3	7	6	1	2	2	3	5	2	2	4	4	3	4	2		5				2	2											4	3	
Tivoli	1	3	126	2	3	7	10	1	1	1	1	3	2	2	4	2	4	3	4				2		2	2					2						4	3	
Tivoli	1	3	127	2	2	1	9	1	2	1	1	3	2	2	4	2	2	2	4					2				2	2								4	3	
Tivoli	1	3	128	2	4	2	5	2	1	1	3	3	3	2	4	2	4	3	3						2												4	3	
Tivoli	1	3	129	2	3	1	3	2	2	2	3	4	1	4	4	2	5	2	4					2	2	2	2										4	4	
Tivoli	1	3	130	1	2	7	7	0	2	3	3	5	3	4	5	2	4	4	4		5			2	2	2											5	4	
Tivoli	1	3	131	1	4	2	7	2	2	1	3	5	4	4	4	3	4	2	4							2											5	4	
Tivoli	1	3	132	2	2	3	8	1	1	1	3	4	2	2	4	3	4	3	4		5		2														4	5	
Tivoli	1	3	133	2	3	2	3	2	2	1	3	3	2	2	4	4	4	3	4			5		2	2												5	4	
Tivoli	7	1	134	1	1	3	9	1	1	1	3	5	2	2	4	3	2	3	4						2				2		2							5	5
Tivoli	7	1	135	1	3	2	4	1	2	3	2	3	3	4	4	3	2	4	4				2														4	3	
Tivoli	7	1	136	2	2	7	9	1	2	1	3	3	3	2	4	2	4	3	4					2		2											4	3	
Tivoli	7	1	137	2	3	7	4	2	3	3	3	3	4	3	4	3	4	4	4						2													4	4
Tivoli	7	1	138	1	1	6	5	1	2	2	3	4	4	4	4	3	4	4	4						2		2											4	3
Tivoli	7	2	139	1	4	2	3	0	1	1	3	5	4	2	4	4	4	4	4					2	2	2	2				2	2						5	5
Tivoli	7	2	140	1	4	2	5	1	1	1	3	4	3	3	4	2	2	3	4						2		2											4	3
Tivoli	7	2	141	1	2	1	3	2	5	2	4	4	4	3	4	5	4	4	4				2	2														4	3
Tivoli	7	2	142	2	1	3	1	2	1	3	2	3	4	3	4	3	4	4	4					2	2	2	2	2										4	3
Tivoli	7	2	143	1	2	4	5	2	3	3	2	3	4	4	4	2	4	2	4					2		2					2	2						4	3
Tivoli	7	2	144	1	3	1	9	2	2	1	1	3	4	4	4	3	2	4	4					2	2			2										4	3
Tivoli	7	2	145	2	3	7	8	2	2	2	3	3	3	3	2	4	4	4	4		5					2												5	3
Tivoli	7	2	146	2	4	2	5	2	1	1	3	4	3	2	5	3	5	3	3					2	2	2					2	2						4	5
Tivoli	7	2	147	1	3	4	10	0	2	3	1	3	5	4	4	3	4	4	4					2		2												4	4
Tivoli	7	3	148	1	1	3	11	2	1	3	2	5	3	2	3	3	2	3	4						2													4	3
Tivoli	7	3	149	2	2	1	2	3	3	1	3	4	4	2	4	2	4	3	4						2													5	3
Tivoli	7	1	150	1	3	1	11	0	2	3	3	5	5	2	4	3	4	4	5						2		2											5	4
Tivoli	7	1	151	1	3	7	3	0	2	3	0	4	4	5	4	4	2	4	2							2												4	3
Tivoli	7	1	152	2	2	1	5	2	2	2	3	3	2	2	4	5	4	3	4							2	2		2		2							4	

	DAY	TIME	SURJ	SEX	AGE	OCC	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	WATCH	WATCH EN	BITE	IN	OUT	SIT	SEE	N	NIGHT	Q9	N	FAST	SPORT	CLOTH	SPECIAL	REST	ROOF	LUGG	GIFT	JEWEL	PUSH	TOYS	OTHER	Q10	Q11					
Tivoli	7	1	153	2	2	1	5	2	2	1	3	4	3	4	4	2	2	3	4								2						2						3	4				
Tivoli	7	1	154	2	3	6	3	1	2	2	3	5	4	4	4	4	4	3	4								2	2											4	2				
Tivoli	7	1	155	1	1	3	10	2	1	3	1	4	4	5	4	3	4	3	4												2								4	3				
Tivoli	7	2	156	2	3	1	5	2	3	2	3	3	2	4	4	3	4	3	4						2						2						2		4	3				
Tivoli	7	2	157	1	3	1	7	2	2	2	3	3	3	2	4	3	2	3	4					2	2						2							3	3					
Tivoli	7	2	158	2	3	1	9	1	2	1	3	3	3	2	4	4	4	4	4							2	2					2						2		4	4			
Tivoli	7	2	159	2	1	3	5	1	1	2	3	4	3	2	4	3	4	3	4								2		2	2	2	2		2					4	3				
Tivoli	7	2	160	2	2	4	1	2	3	3	2	5	4	2	4	4	4	4	4		5							2		2	2	2		2					4	3				
Tivoli	7	3	161	2	3	2	3	3	1	2	3	4	2	3	4	5	4	4	4									2												4	4			
Tivoli	7	3	162	2	3	1	10	2	2	1	1	3	2	2	4	2	2	3	4									2	2			2								5	5			
Tivoli	7	3	163	2	2	6	9	1	2	1	3	4	3	2	3	3	4	2	4							2	2	2						2						4	3			
Tivoli	3	2	164	1	2	2	3	1	1	1	3	4	5	2	4	2	4	2	2									2						2						5	1			
Tivoli	3	2	165	1	2	2	4	2	1	1	2	5	3	2	3	4	4	2	4					2					2											5	2			
Tivoli	3	2	166	2	2	7	9	1	2	1	2	4	5	4	4	4	4	4	4								2				2									5	5			
Tivoli	3	2	167	1	1	3	11	0	1	2	2	5	4	2	4	4	5	2	4		5				2						2		2	2						5	4			
Tivoli	3	2	168	1	4	7	11	4	5	2	4	2	2	2	4	3	4	4	4					2																4	3			
Tivoli	3	2	169	2	2	1	11	1	1	1	3	3	1	4	2	4	4	5	2							2	2	2		2											4	3		
Tivoli	3	2	170	2	2	1	9	1	1	1	3	4	4	4	4	2	2	2	2										2											3	5			
Tivoli	3	2	171	2	3	1	2	3	3	1	1	4	4	3	4	5	4	3	3					2	2															2	5			
Tivoli	3	2	172	2	2	1	11	1	1	1	4	0	4	3	3	3	3	3	3											2										5	4			
Tivoli	3	2	173	2	2	1	8	3	3	3	3	4	4	2	4	4	1	2	2							2															4	1		
Tivoli	3	2	174	2	2	6	8	1	2	2	2	5	4	2	2	2	4	4	2		5				2																5	5		
Tivoli	3	2	175	2	2	1	2	2	2	1	3	4	3	3	4	4	4	3	3												2										5	4		
Tivoli	3	2	176	2	3	2	5	3	1	1	4	4	4	4	2	2	4	2	4				5																		4	3		
Tivoli	3	2	177	1	2	4	2	3	5	1	4	4	2	2	2	2	4	2	2					2	2																5	3		
Tivoli	3	3	178	2	3	1	3	2	5	1	4	4	2	1	3	4	4	3	4									2														4	5	
Tivoli	3	3	179	2	3	1	2	0	2	4	1	0	4	2	4	4	5	2	3					2							2											4	4	
Tivoli	3	3	180	1	4	2	3	2	1	3	3	5	5	4	4	3	5	3	4							2									2							5	4	
Tivoli	3	3	181	1	4	2	6	3	2	1	3	5	4	2	4	2	4	3	4										2													5	4	
Tivoli	4	1	182	2	2	1	11	3	5	2	4	3	2	2	2	3	4	3	4					2	2																	4	5	
Tivoli	4	1	183	2	1	3	5	1	1	1	3	4	3	4	4	3	4	3	3							2		2	2													4	4	
Tivoli	4	1	184	2	2	6	5	1	2	1	3	5	2	2	4	2	4	3	4									2	2													5	4	
Tivoli	4	1	185	2	2	1	2	3	5	1	4	4	3	4	4	5	5	4	4					2	2																	4	4	
Tivoli	4	1	186	2	2	1	3	2	2	2	3	3	2	2	3	3	4	3	4										2													3	3	
Tivoli	4	2	187	1	2	5	3	0	1	2	3	4	3	3	4	3	4	4	4										2		2											5	3	
Tivoli	4	2	188	1	3	2	2	3	1	2	4	3	4	4	4	5	5	4	5					2	2																	5	4	
Tivoli	4	2	189	2	3	1	2	2	2	1	3	4	4	4	2	2	5	3	4												2											4	3	
Tivoli	4	2	190	2	3	1	2	2	2	2	3	4	2	3	4	3	4	4	3					2	2																	5	4	
Tivoli	4	2	191	1	1	3	3	1	1	2	2	3	2	2	4	3	4	4	4																								3	3
Tivoli	4	2	192	1	2	4	9	1	1	1	2	5	2	4	5	2	4	3	4							2	2	2		2													5	4
Tivoli	4	2	193	2	3	1	2	3	3	2	1	3	4	2	4	4	5	3	4										2														3	3
Tivoli	4	2	194	1	3	1	2	3	3	2	1	4	4	4	4	4	4	4	4							2																4	5	
Tivoli	4	2	195	1	3	1	2	2	2	3	3	3	3	2	4	3	4	4	4					2	2						2											4	3	
Tivoli	4	2	196	1	3	1	1	3	4	3	1	5	4	4	4	5	4	3	2				5			2		2		2												5	4	
Tivoli	4	3	197	1	4	2	4	2	1	2	3	2	4	2	4	3	4	4	4							2		2															3	4
Tivoli	4	3	198	1	2	1	2	4	4	3	3	4	3	4	3	3	5	3	4																							5	4	
Tivoli	4	3	199	2	2	1	1	2	3	3	1	4	4	2	4	4	5	3	4												2					2	2					5	4	
Tivoli	4	3	200	2	2	1	8	2	2	1	3	4	3	4	4	3	4	4	4		5							2				2										4	3	

		SITE		
		Tabor	Tivoli	ALL
D	1	18	33	51
A	7	49	30	79
Y	ALL	67	63	130

		SITE		
		Tabor	Tivoli	ALL
T	1	21	18	39
I	2	27	31	58
N	3	19	14	33
E	ALL	67	63	130

		SITE		
		Tabor	Tivoli	ALL
S	1	35	34	69
E	2	32	29	61
X	ALL	67	63	130

		SITE		
		Tabor	Tivoli	ALL
A	1	6	7	13
B	2	18	17	35
E	3	29	32	61
	4	14	7	21
ALL		67	63	130

		SITE		
		Tabor	Tivoli	ALL
O	1	25	20	45
C	2	6	13	19
C	3	4	7	11
U	4	12	8	20
P	5	3	4	7
A	6	15	4	19
T	7	2	7	9
I	ALL	67	63	130
O				
N				

		SITE		
		Tabor	Tivoli	ALL
Q	1	4	4	8
I	2	4	6	10
	3	13	12	25
M	4	10	7	17
H	5	13	9	22
Y	6	4	1	5
	7	0	3	3
C	8	0	2	2
A	9	9	11	20
N	10	3	5	8
E	11	4	3	7
	12	3	0	3
ALL		67	63	130

		SITE		
		Tabor	Tivoli	ALL
Q	0	6	7	13
2	1	13	20	33
	2	30	28	58
H	3	16	7	23
O	4	2	1	3
N	ALL	67	63	130
D				
F				
T				
E				
N				

		SITE		
		Tabor	Tivoli	ALL
Q	1	14	23	37
3	2	31	29	60
	3	13	10	23
D	4	6	0	6
I	5	3	1	4
G	ALL	67	63	130
T				
A				
N				
C				
E				
M				
D				
R				
K				

		SITE		
		Tabor	Tivoli	ALL
Q	1	27	25	52
4	2	23	18	41
	3	15	19	34
D	4	1	1	2
I	5	1	0	1
G	ALL	67	63	130
T				
A				
N				
C				
E				
L				
I				
V				
E				

		SITE		
		Tabor	Tivoli	ALL
Q	0	7	3	10
S	1	0	12	12
	2	11	7	18
H	3	43	38	81
D	4	6	3	9
D	ALL	67	63	130
E				
T				
R				
A				
N				
S				
P				
D				
R				
T				
A				
T				
I				
O				
N				

		SITE		
		Tabor	Tivoli	ALL
Q	2	0	1	1
6	3	13	20	33
	4	35	22	57
S	5	19	20	39
T	ALL	67	63	130
D				
O				
R				
E				
F				
R				
D				
N				
T				
A				
T				
R				
A				
C				
T				

		SITE		
		Tabor	Tivoli	ALL
Q	1	2	2	4
7	2	5	15	20
	3	17	16	33
C	4	29	25	54
O	5	14	5	19
N	ALL	67	63	130
E				
A				
T				
D				
I				
F				
F				
T				
I				
N				
E				

	SITE			ALL
	Tabor	Tivoli		
D	1	1	1	2
B	2	20	32	52
	3	12	7	19
E	4	25	19	44
M	5	9	4	13
J ALL		67	63	130
D				
Y				
S				
U				
N				

	SITE			ALL
	Tabor	Tivoli		
M	2	0	3	3
A	3	7	5	12
T	4	43	50	93
C	5	17	5	22
H ALL		67	63	130
P				
E				
O				
P				
L				
E				

	SITE			ALL
	Tabor	Tivoli		
M	2	17	18	35
A	3	39	26	65
T	4	10	14	24
C	5	1	5	6
H ALL		67	63	130
E				
N				
T				
E				
R				
T				
A				
I				
N				
E				
R				
S				

	SITE			ALL
	Tabor	Tivoli		
B	2	3	11	14
I	3	5	2	7
T	4	39	43	82
E	5	20	7	27
ALL		67	63	130
T				
O				
E				
A				
T				

	SITE			ALL
	Tabor	Tivoli		
I	2	4	10	14
N	3	34	32	66
	4	28	20	48
O	5	1	1	2
U ALL		67	63	130
T				
O				
F				
R				
A				
I				
N				

	SITE			ALL
	Tabor	Tivoli		
S	2	10	3	13
I	3	2	4	6
T	4	46	52	98
	5	9	4	13
ALL		67	63	130

	SITE			ALL
	Tabor	Tivoli		
S	5	0	7	7
E		67	56	123
E ALL		67	63	130
N				
O				
V				
I				
E				

	SITE			ALL
	Tabor	Tivoli		
M	5	0	2	2
A		67	61	128
T ALL		67	63	130
C				
H				
B				
I				
K				
E				
R				
A				
C				
E				
S				

	SITE			ALL
	Tabor	Tivoli		
M	5	0	3	3
I		67	60	127
G ALL		67	63	130
H				
T				
C				
L				
U				
B				
S				

URBAN MARKETPLACE: AN EVALUATION OF THE SOCIAL AND RETAIL ENVIRONMENT

by

MIGUEL IGOR IRAOLA

B.S., Colorado State University, 1982

An Abstract of a Master's Thesis

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MASTER OF LANDSCAPE ARCHITECTURE

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1988

ABSTRACT

Physical design in the urban marketplace should be oriented toward the social and recreational needs of people as well as having attractive retail elements. The urban marketplace is defined as an open space or building where people gather to buy and sell goods and services. The purpose of this study is to define and compare urban marketplace in terms of two evaluative criteria: (1) a positive environment for social interaction; and (2) the implementation of retail elements offering or producing a high degree of appeal to users.

The criteria for evaluation was tested on two selected sites in Denver, Colorado. The retail portion of a mixed-use development, The Shops at Tabor Center and an adaptive use of a historic brewery, The Tivoli will serve as the study sites. Contextual analysis through site reconnaissance along with direct observation/behavior mapping and interview questionnaires served as the methods used to test the marketplace design response to the criteria.

The results for the sociability portion of the evaluation tended to coincide in some respects with William Whyte's thoughts on designing sociable places. The Tabor site was determined to be a more sociable place because it attracted more people. The key factors for attracting people into the marketplace are: a good location, relative to large concentrations of people, the creation of physical design elements optimizing on stimulating social activities and an attractive retail concept. The quality and success of the urban marketplace should generate a new spirit and vitality to the city and its inhabitants.