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*I hereby recommend that the thesis prepared under  
my supervision by* Menelaos Triantafillou  
*entitled* An Evaluation of Fountain Square  
Based Upon Behavioral Design Principles  
For Public Spaces  
*be accepted as fulfilling this part of the requirements for  
the degree of* Master of Community Planning

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AN EVALUATION OF FOUNTAIN SQUARE  
BASED UPON BEHAVIORAL DESIGN  
PRINCIPLES FOR PUBLIC SPACES

A thesis submitted to the  
Division of Graduate Studies and Research  
of the University of Cincinnati

in partial fulfillment of the  
requirements for the degree of

MASTER OF COMMUNITY PLANNING

in the School of Planning  
of the College of Design, Architecture, Art, and Planning

1990

by

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B.A., Carthage College, 1987

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## ABSTRACT

Fountain Square is used as a laboratory for studying the relationship between the design of urban spaces and human behavior. Several criteria, devised by Wm. H. Whyte and Jan Gehl, are selected as a basis for evaluation of the Square in terms of its ability to accommodate the users in the space. These criteria include amount of seating, pedestrian movement, physical and visual accessibility, adjacent land uses, and microclimatic conditions. An inventory of the existing conditions and an analysis of the ways in which people currently use the space was undertaken. Based on the analysis, an evaluation of the Square found it to be deficient in meeting many of the minimum standards set by the criteria. Recommendations which help the Square meet the minimum criteria are suggested as a means of improving the overall quality of space for its users.

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## CHAPTER ONE

### Introductory Remarks

This is a report on research undertaken to explore those design elements in public urban spaces which accommodate the behavioral and social needs of its users. These design elements can be applied far beyond the scope of urban plazas. Planning for people is an attempt to make efficient, pleasant and stimulating environments for everyone. This study focuses on Fountain Square which is located in the heart of Cincinnati, Ohio. Through observation, video filming and photography, efforts were made to evaluate the space in terms of its design, its users and the relationship between the two.

The approach of this study focuses on the social function of open spaces and views the bringing together of people as a plaza's main goal. In making urban spaces enticing and accommodating, the intention is to increase the number of potential meetings and encounters between varied persons. Lewis Mumford eloquently states this goal as "providing a stage upon which the drama of social life may be enacted" (Seymour 1969, 20).

This first chapter will discuss the goals of the research, explain the relationship of this study in the context of previous work, and discuss the organization of the ensuing chapters.

### Goals of the Research

The primary goal of this research is to explore the relationship between urban design and human behavior. In learning about this relationship, future planning decisions can be analyzed in terms of their impact on relevant users needs. Sensitivity to these types of design decisions impact the efficiency, health and social life of our cities.

A second goal is to apply evaluation techniques which have been devised by leaders in the field. Solutions to urban problems require asking the correct questions and knowing what to observe. The everyday activities which are so common, are often overlooked. These types of activities often hold the key to user needs - if only they are observed with trained eyes.

A third and final goal in this research project is to observe the social life of a city. There exist very predictable behaviors and relationships in urban life which are fascinating. These behaviors are the groundwork for design decisions and deserve attention.

### Relationship to Previous Work

This research draws from a wide variety of work. However, this work is particularly influenced by the work of William Hollingsworth Whyte and Jan Gehl. Both have done extensive studies in the outdoor urban environment in the

attempt to improve upon, and in some cases, preserve the urban fabric. Because Whyte and Gehl have devised some very specific, measurable criteria associated with designing for user needs, their work will be described in detail later in the analysis and evaluation of Fountain Square.

In the past, there have been many attempts to discover what forces underlie the success of certain places, in terms of usage, and the failure behind other places which remain dead, unused spaces. In the urban context, one can find public spaces which are lively and enhance the spirit of city life. Other spaces, however, can be found void of activity, even when located near a large urban population. Given the presence of a significant user population, attempts have been made to attribute a plaza's success to its physical design. That is, design which accommodates human behavior as opposed to pure aesthetics alone.

#### The Influence of Design on Human Behavior

In evaluating the impact of design on behavior, it is important to first note the types of activities which occur outdoors. Gehl lists three types of activities which take place outdoor - "necessary, optional and social activities". Necessary activities are those which occur under all conditions (climatic or physical), such as travelling to work or going grocery shopping. The second type are of outdoor activity involves optional activities. These activities only

occur under favorable exterior conditions and they include, taking a walk or sitting outdoors. If conditions are good, that is, if the weather is relatively pleasant and if the physical space is accommodating, necessary activities will take longer and more optional activities will take place (Gehl 1980, 12). The third type is labeled "social or resultant activities". These include all activities which are dependent on the presence of others in the same public space. Social activities range from passive contacts, such as seeing and hearing others at one end of the spectrum, to involvement in conversation at the other end. Social activities evolve from necessary and optional activities and are supported whenever necessary and optional activities are given better conditions in public spaces. That is, if more people spend more time outdoors, greater opportunities exist for meeting and socializing (Gehl 1980, 14).

There are several planning implications which can be considered in manipulating the numbers and frequencies of people outdoors. Climatic conditions often are a deciding factor in the desire to be outdoors. Even though these conditions are a given, there are several design techniques which can minimize the harsh effects of climate. In addition to minimizing climatic effects, pleasant spaces can be designed and created which allow "optional activities" to occur (such as provisions for seating, things to see, and things to do) and which thereby, encourage "necessary

activities" to linger awhile longer. If these two activities increase in frequency and duration, then there is a greater opportunity for social activities to develop.

There have been several studies which document the relationship between outdoor quality and increased outdoor activities which are cited to demonstrate the relationship between improved physical conditions as a means to increase the frequency and duration of outdoor activity, and thus, the possibility of social interaction. Appleyard and Lintell, in a classic study of the effects of automobile traffic on residential street life, found that those residents living on heavily travelled streets were more prone to stress and withdrawal from the environment (Appleyard 1972, 93). The residents who lived on streets with heavy traffic were found to partake in less social activity and less social interaction with neighbors who lived on their street, when compared to residents who lived on streets with light traffic. The implication thus being that an increase in traffic decreases the frequency of outdoor activities and social contact. Therefore, in designing outdoor spaces the absence of traffic is a positive contribution. If this absence is not possible, then significant attempts to buffer the transition between plaza space and the street need to be undertaken.

Jan Gehl has also documented the relation between outdoor quality and subsequent activity. Based on surveys of activity in the center of Copenhagen, Gehl found that "the improvement

of physical conditions of pedestrian streets and squares paralleled an increase in the number of people sitting and standing in these places" (Gehl 1980, 35). Gehl has concluded that within certain limits (climatic, regional and societal) that "it is possible to influence how many people use public space, how long activities last and which activities can develop" (Gehl 1980, 36).

William Hollingsworth Whyte, in assessing outdoor quality and activity, has compared several public open spaces in Manhattan through observation and time lapse photography. He has concluded that a plaza's success is not dependent on such elements as aesthetics, or surrounding building design. Rather, its success is based on meeting the physical and psychological behaviors and needs of its users (Whyte 1980, 24-27). Therefore, grandiose schemes for plaza design are exceeded in importance by basic and sensitive design which provides the user with a few necessities to make his or her stay comfortable, such as enough seating, and protection from excessive wind. Interestingly, Whyte has found in his studies of New York plazas, that the most popular places are those which have the most numerous sitting space (Whyte 1980, 28).

These authors have pointed out that planning decisions can directly affect the number of pedestrians and the length of their stay outdoors. "Planners and designers are shaping people as well as buildings with or without conscious recognition" (Sommer 1969, 1) as the environment provides cues

which are picked up by its users. As Sitte cites, "anyone who has enjoyed the charms of an ancient city would hardly disagree with this idea of the strong influence of physical setting on the human soul" (Sitte 1965, 3).

It is important to note that while the environment does indeed impact human behavior, the physical framework can only encourage or discourage opportunities, and it plays a larger role in the more modest contacts (Gehl 1980, 55-56). That is, physical design, in and of itself, is not a determining factor in close, intense social contacts. It is arrogant to overlook other societal factors. However, design can enhance and encourage casual contacts which then may develop into more intimate contacts.

Some of the design elements which influence behavior may be rooted in physiology. For example, up to approximately 325 feet, the human individual can be observed and general characteristics distinguished. This is termed the "social field of vision" (Gehl 1980, 67). When distance is reduced to approximately 100 feet, facial features and age can be discerned. The point being that distance is directly related to social intimacy, intensity and interest. If a space is too big, that is, larger than 325 feet, it becomes impossible to perceive the whole space and clearly note the activities taking place in it. Large spaces become cold and impersonal. On the other hand, smaller spaces experienced at close range are perceived as more warm and intimate (Gehl 1980, 71).

Furthermore, visual perception is quite limited vertically and requires a specific amount of time to process the visual information. Most sensory experiences are designed to process details at walking or running speed (Gehl 1980, 71). Therefore, if speed is further increased (i.e. 35 m.p.h. by automobile), the ability to process information severely drops. Thus, in the automobile oriented city, the scale of signage and architecture is quite large and bold with very little detail, which accommodates for the speed. Contact with others is impossible, simply because this level of detail is impossible to decipher at automobile speeds. Only at the pedestrian level can the social life of a city be encouraged and nurtured. Slow traffic means lively cities! Thus, an urban plaza can enhance the pedestrian level experience and promote the social life of a city.

Furthermore, one could possibly argue that the social experiences are not only desirable, but necessary. Man has been deemed a social animal. While psychologists still ponder the question of "why", it is recognized that a healthy person requires contact with others as well as stimulation. Studies have shown that people go where the activity is - that is, that people are attracted to other people (Gehl 1980, 25) (Whyte 1980, 75) and not to buildings and architecture. Even though people say they prefer secluded parks and spaces, their actions often time prove the opposite (Whyte 1988, 60). People are attracted to lively spaces filled with people. In

addition, people will stop in front of shops or activities which are related to other people and the social environment (Gehl 1980, 76). Oppositely, if people are too spread out over time and space, activities can never grow into larger events (Gehl 1980, 75). People and people related events are the greatest object of attention. For example, Gehl observed people stopping to watch construction workers on a city street. When the lunch hour arrived and work was at a halt, no one stopped. Similarly, people often stop to listen to live street entertainers, but not for music from outdoor speakers (Gehl 1980, 31).

#### The Context of Public Spaces

While the relationship between plaza design and use does exist, the context in which the plaza is located may also be a contributor to usage patterns. Interestingly, the physical need for something is usually accompanied by the psychological need for contact, stimulation and knowledge. However, the physical need is more overt and easily defined (Gehl 1980, 119). Therefore, if urban spaces are to be successful, it must have destinations near it which induce persons to go out. There must be something to see or do in order to bring people out as a pretext for informal social contact.

It is interesting, also, to note that throughout most of the literature on public space and human activity, that the spaces and streets of the city are always referred to as a

stage with actors and audiences alike (Whyte 1988, 21) - a place to see and to be seen.

A study of plaza use in Minneapolis concluded that while large plazas with more seating and trees tended to have more users, that these physical characteristics left much of the differences in usage patterns unexplained. It was argued that more important than physical design, the best used plazas are "in the area of greatest land-use diversity are located in the midst of areas with large worker populations, many places to eat, and places to shop" (Chidster 1987, 124). Whyte somewhat agrees that a central location is a definite prerequisite, however, he claims it does not assure that the plaza will be well used (Whyte 1988, 109). The Minneapolis study, however, suggests that even poorly designed plazas placed in the appropriate context may be more successful than well-designed plazas in a poor context.

Plaza context refers to the land uses and the worker population of the eight to nine square block area in which the plaza is centered. Those spaces which are most attractive to pedestrians are those which are immediate and accessible and not out of the way. The plaza space should be in the heart of downtown (Whyte 1989, 108). If a public space is part of a well travelled route, the possibilities for use are higher (Gehl 1980, 117).

The importance of context and plaza location is furthered when one considers that plaza users are mainly comprised of

office workers (Whyte 1980, 16). Eighty percent of the total hours of use occur between 12:00 p.m. and 2:00 p.m. which corresponds with office lunch hours (Whyte 1980, 18). Unfortunately, most plazas usually go dead by 6:00 p.m. unless a special event as been scheduled. This is not to imply that their value is any less. Even if a plaza basically serves a day population, its function is still of utmost importance.

### Design at the Human Scale

Another important aspect of plaza context is the scale of design. Plazas are best used when designed for the pedestrian as an extension of the street and also when the city encourages its users to remain or walk outdoors for reasonable interludes (Seymour 1969, 8). It should be noted activities which are assembled and concentrated in the small geographic area of the central business district, the automobile is simply inefficient in terms of people moving. Automobiles take up an unproportionate amount of space when considering the number of people they move. Furthermore, the parking of vehicles provides an even greater problem by not only using up valuable real estate, but by turning potential people places into dead space. That is, space which is unattractive, boring and which does not generate pedestrian trips. If parking were on the periphery of the city - there would be more pedestrians walking through the city for longer periods of time and thus, creating more activity (Gehl 1980,

81).

The time factor is an important element in levels of activity. "Activity is a product of the number and duration of individual events" (Gehl 1980, 82). However, the time spent outside is what is important. Thus, the number of people or events alone does not give a real indication of the activity level in a space. But rather, how these people are spread out over time and space. For example, both a freeway and a pedestrian mall may have a traffic rate of 85 persons per minute. The pedestrian mall, however, will concentrate the activity because traffic is much slower (Gehl 1980, 79).

If the goal of an urban plaza space is to promote social interaction, then the automobile compromises this goal. As mentioned earlier, the automobile hinders social interaction. There seems to exist a competition between automobiles and pedestrians for space. Unfortunately, cities tend to accommodate the vehicle rather than the pedestrian. This is demonstrated by overpasses for pedestrians (at the convenience of vehicles), stop lights which are timed for autos and which consistently break the rhythm of pedestrian movement, and sidewalk space compromised when streets need to be widened (Pushkarev 1975, 32). In addition, the automobile insulates man from the environment. It deprives him of sensory experience not only by encapsulating him, but by the increase in speed and noise (Seymour 1969, 103). In essence, vehicular orientation separates activities from movement.

In addition, large scale development, the monopoly of urban super blocks by one owner, is not compatible with human scale planning (Clay 1978, 484). Unfortunately, planning at the human scale is compromised even though most people travelling to the city center by a variety of transportation modes eventually end up as pedestrians at some point (Pushkarev 1975, 15). Pedestrians are usually forced into the leftover space between buildings and streets. Planning at the human scale, simply put, is a matter of distance which allows the person to experience and sense the place (Gehl 1980, 123). Activities can be assembled by placing individual buildings and functions so that a system of public spaces and streets are compact and pedestrian traffic, as well as sensory experience are as short as possible. The environment becomes much more interesting as more details can be observed and sensed (Gehl 1980, 87). Add to this slow speeds and the environment can be activated, especially when the distance between the street and adjacent facades and entrances is short. This type of planning makes the environment exciting and stimulating for the pedestrian and promotes necessary activities to linger and optional activities to increase in frequency (Gehl 1980, 95-105).

In conclusion, it has been documented that design can encourage or hinder activity. While this literature review is by no means exhaustive it briefly attempts to establish the relationship between design factors and behavior. It also

attempts to expound the importance of a city's social life and how design can influence this activity.

#### Organization of the Report

The next chapter, "Methodology" explains the general approach and steps taken in completing this report. It briefly describes the specific design elements which will be studied, and the evaluation process. Chapter three briefly describes Fountain Square and its context. The pursuing chapters describe in detail each design element of the study. In order to present a more succinct, and orderly report each element studied will follow the subsequent format. First, a summary will be given which describes why the design element is important and how it can shape activities. Secondly, specific criteria are derived in order to measure the existence of the element. Third, the methods involved in documenting the conditions will be listed followed by the conditions as they exist and an analysis. In the final chapters, each of the design elements, or criteria are synthesized, and the Square is evaluated accordingly. In this manner, one can observe the relationships between the many criteria. Where appropriate, practical recommendations are suggested which would result in the existing conditions meeting the designated minimum criteria.

## CHAPTER TWO

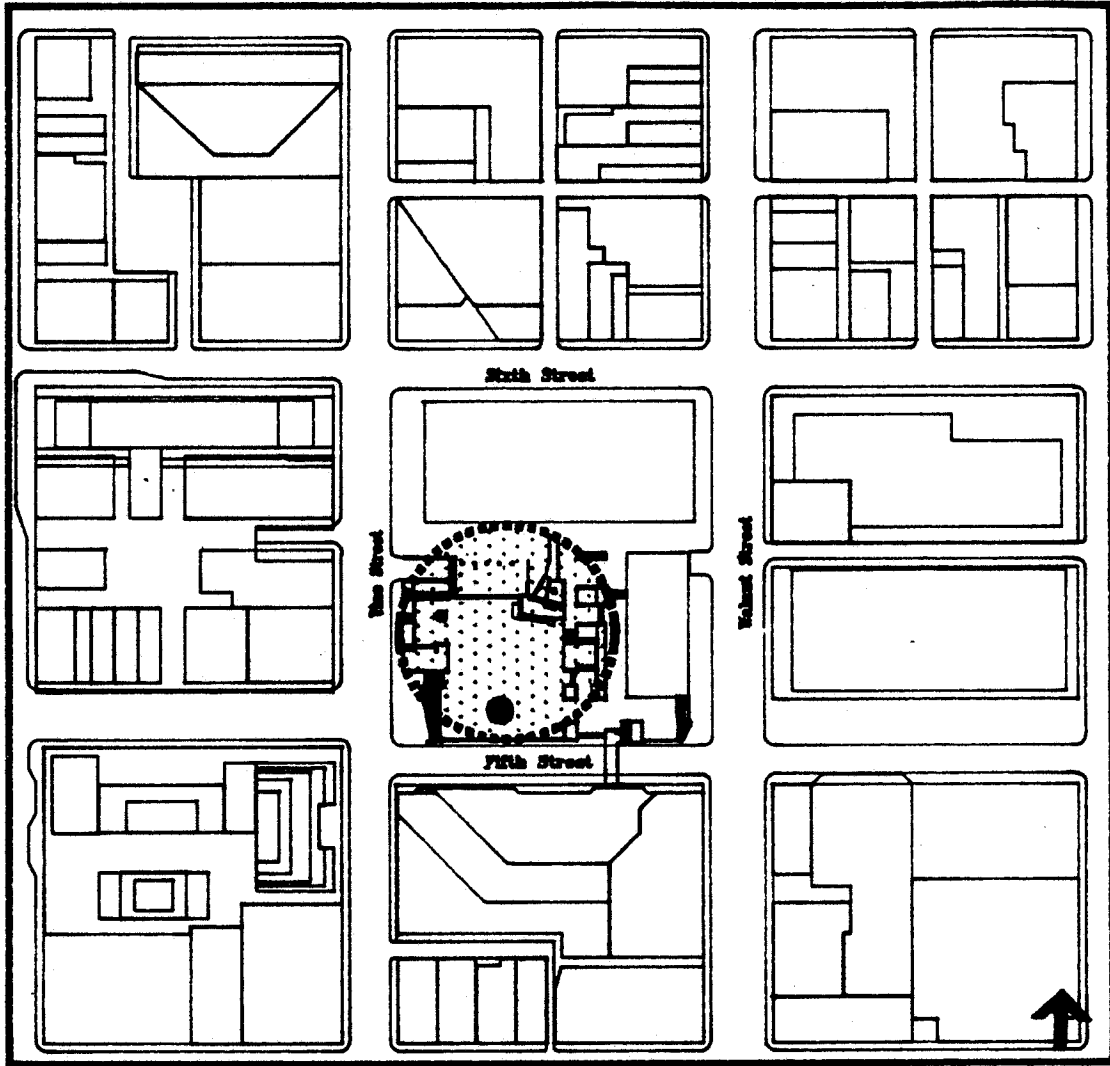
### Methodology

It is the purpose of this chapter to outline the nature of this project. The project area will be defined and its role in the research explained. Secondly, the general procedures followed during fieldwork will be addressed.

Fountain Square is a relatively well used urban plaza located in the heart of Cincinnati. The Square will be used as a model for testing the relationship between the success of an urban plaza and its design. The Square is dominated, and named, for the Tyler Davidson Fountain which sits near the Square's southern border. Fountain Square was originally located in the median strip of Fifth Street between Vine and Walnut. In this setting, the Square's role was largely monumental and decorative. However, in 1969, the fountain was moved to its present spot as an urban renewal effort (see map 1 for current location of the Square).

Another dominant feature of the Square is the pavillion stage. Here performances and events, of both large and small scale are centered. The pavillion is located in the northeast corner of the central space.

The Square itself is comprised of a large central space and many subspaces which form a spatial hierarchy. Thus, one can experience a variety of settings ranging from full



**Location**

**Fountain Square - Cincinnati, Ohio**

Spring 1888

200' 100' 0' 200'

1

Lincoln St. Street

participation in the urban space to relatively quiet relaxation in the more private spaces.

Since Fountain Square is documented as a successful, lively plaza, it should fit some or most of the criteria documented by Whyte and Gehl. A thorough evaluation which involves measuring the existence or nonexistence of the designated elements of successful design, as well as an evaluation of the plaza's context, will be undertaken and related to the plaza's success. In the case that some elements of Fountain Square's design do not meet the designated criteria, improvements will be proposed which fulfill the requirements.

#### Selection of Design Criteria for Evaluation

It is my experience that there does exist, a consensus among researchers, about the design criteria for successful, well used plazas. However, some research works are more operational, while some more subjective impressions. In essence, they are all in general agreement. Whyte and Gehl have both developed several measurable criteria for successful design which compliment each other, if not replicate each other. Therefore, it is their guidelines which most heavily influence the evaluation. In addition, Whyte's research efforts undertaken in 1970 were ultimately incorporated into New York City's open space zoning code, formally adopted in 1975. These specific guidelines attempt

to ensure that plaza space is amenable and accommodating for the user. Thus, many of the specifications in the zoning code have been selected and included in the following criteria. The design elements which will be investigated include the amount and types of seating, the pedestrian movement patterns through the Square, visual and physical accessibility, adjacent land uses, the microclimatic influences upon the Square, the existing amenities, and lastly, an investigation of indoor public spaces with reference to Fountain Square South.

#### Inventory of Existing Conditions

A documentation of the existing conditions was undertaken as relevant to the design elements which were previously listed. This involved, in many instances, using the maps to measure and display such design components as the seating, general physical configuration of the space and adjacent areas, vegetation, existing parking and the space amenities. First hand observations were undertaken in order to determine surrounding land uses, pedestrian movement patterns and seating patterns. This involved several visits to the plaza during peak usage periods (12:00 - 2:00 p.m.) and recording the ways people move across the plaza on the base map. Observations were also made at off-peak hours, and also on week-ends in order to determine the relationship between surrounding land use and the plaza. Photography and

videotaping were instrumental in the observation period. These observations occurred in the spring between March and May as during the winter months the bulk of the office population chooses to remain indoors.

The microclimatic consideration of sun and shade can be graphically modelled on the base map by using the documented sun angles for the Cincinnati area. A modelling of the shaded areas on Fountain Square by its surrounding buildings is demonstrated for both the winter and summer (extreme seasons) and the vernal and autumnal equinox for the hours between 8:00 a.m. and 6:00 p.m. The general wind patterns are also documented graphically. It is intended to demonstrate the microclimatic effects on the Square of the surrounding buildings and corridors. Also, any points of turbulence may be identified and potentially resolved through wind blocks.

This process will be duplicated on Fountain Square South as an entity in itself. However, the microclimatic considerations will be of different nature. Specifically, the nature of the controlled climate and artificial lighting will be noted as opposed to the sun, shade, wind, etc.

#### Evaluation of Existing Conditions

In this step, comparisons were made of the optimal conditions, that is the design criteria established by Whyte and Gehl, against the documented existing conditions. In some cases, the evaluation simply required comparing numbers (such

as amount of seating, its height and width). In other cases, it required observing and cataloguing the presence or absence of certain elements - such as, variety of seating, the presence and number of eating establishments, retail services, space amenities, the amount of vegetation and relation with seating, amount and location of parking facilities. It was also necessary to make observations of the movement patterns of pedestrians and to make determinations about the ways in which the space is traversed and used. In essence, the evaluation was a matter of moving down the checklist of design criteria which was already established and compared to the existing conditions.

However, a second aspect of the documentation required an understanding of how the space was used in general. These findings are documented wherever possible.

Lastly, an overall evaluation is made for the Square as a whole. The each component is merged in order to view the composite picture. Here, prime and critical zones within the space are determined by overlaying each of the design elements.

#### Recommendations for the Improvement of Fountain Square

In those cases where the existing conditions did not meet the design criteria, modifications are suggested which help to meet the minimum criteria. Where possible, these modifications are simulated on the three-dimensional base map.

All modifications will be based on meeting the criteria of Whyte and Gehl, thereby making the end result a plaza with an optimal design for its users.

#### Required Resources

The completion of the study required several resources. First, the use of the School of Planning's Environmental Simulation Lab, accompanied by the AutoCad software was necessary for the generation of a three dimensional base map. This three dimensional map was then translated into TOPAS for superior three-dimensional graphics.

## CHAPTER THREE

### Seating

#### Design Considerations

"Only when opportunities for staying exist, can there be stays of duration" (Gehl 1980, 157). This sounds rather simplistic but seating is a vital aspect of plaza success. The most popular plazas in Manhattan, studied by Whyte, were those which had the most sittable space, and they were not necessarily the most aesthetic spaces (Whyte 1980, 27). It has been determined that 6 - 10% of a plaza space should be devoted to seating, or comparably, one linear foot of sitting space for every 30 square feet of plaza space (Whyte 1980, 38). In spaces which carry through traffic, one foot of linear seating for every 40 square feet of space is acceptable. Seating consists of both primary and secondary places. Primary seating includes benches and chairs which optimally, are placed in the most desirable areas. Secondary seating is comprised of stairs, low walls, or planters for example, which are used at peak hours when seating demand is high. This interplay in spatial design accommodates high and low usage. In low periods, the space does not appear to be as empty when primary and secondary seating are carefully planned (Gehl 1980, 161).

The most comfortable seating is between a height of 1 and 3 feet. Optimally, the seat or bench should be between

30 and 35 inches deep in order to accommodate two persons sitting back to back (Whyte 1980, 28). The maximization of choice is the key factor. When people are presented with variety and the possibility to choose, they are more socially comfortable. Most seating available is linear, however, this does not accommodate those people in groups of three or more. Linear seating is beneficial in that it offers privacy - no face to face contacts. Linear seating is more comparable to seats around a theater in which people tend to tolerate higher densities because they are not face to face. Usually people will attempt to position themselves at an angle in order to talk more comfortably. This is why corner spaces are popular, they are most comfortable for small groups. Therefore, moveable chairs represent the highest level of choice and are considered, by researchers in the field, the best type of seating available. Unfortunately, many local organizations are afraid to provide this type of seating for fear of vandalism and removal of the chairs.

As important as variety and choice, is the ability to view activity from where one is sitting. People prefer to sit along facades or along the spatial border of a space but not in the middle. It seems the edges of a space provide the best opportunity for surveying the area while being less exposed (Gehl 1980, 151). Benches with a good view are used more than benches with no view or with a poor view (Gehl 1980, 29). When chairs can be manipulated they are almost always

oriented towards the most active area nearby. When there is adequate seating and these seats offer a view of action, then chances are the plaza will be successful. Quiet areas are also well used when planned in contrast to, and not in replacement of, the active areas (Joardner 1978, 486). Once again, choice plays an important role. Seating should also be sheltered from wind and most seating should be located in the sun. This will be discussed further in the microclimate section.

People will distribute themselves fairly consistently over the space. During the peak hours, some spaces are more heavily used than others. These spaces tend to be considered the most desirable by users and are the spaces consistently used in non peak periods. However, when these desirable spaces are filled, people will sit wherever it is possible (Whyte 1988, 106).

### Criteria

#### Seating Depth

1. Seating should have a minimum depth of 16 inches.
2. Seating with backs should have a minimum depth of 12 inches. 5% of all the required seating should have backs for the benefit of the handicapped and elderly.
3. If seat depth exceeds 30 inches, and both sides are accessible, then it may be counted as double in the

determination of total amount of sittable space.

#### Seating Height

1. Seating must be between 12" and 36" in height, or it will not be counted in total amount of sittable space.

#### Seating Amount

1. One (1) linear foot of seating should be available for each 30 square feet of plaza space. However, if the space provides through block circulation, the ratio is 1 linear foot of seating for each 40 square feet of plaza space.

#### Group Seating

1. Group seating is defined as seating in which the benches, chairs, etc., are located, at least at 45 degree angles to each other (this makes conversation more comfortable).

### Inventory and Analysis

#### Seating Depth

The seating depth of all the existing walls, ledges, and benches falls within the required minimum criteria of 16 inches. In general, the seating depths are extremely generous with a minimum of about 30 inches for each ledge or wall, and 24 inches for the benches. The only potential sitting space which falls short of the criteria may be found around the

edges of the temporary (removed during the winter months) tree planters which are approximately 6 inches thick and are most uncomfortable for sitting, although people have been observed sitting on the planter edge for brief periods of time. This is unfortunate as the placement of these planters could provide ideal seating during peak-usage periods.

### Seating Height

A majority of the seating along the periphery of the central space of the square falls within the prescribed 12 and 36 inch height. Out of the approximately 741 linear feet of available frontage seating space, 630 linear feet meet the height criteria, or 85%. The major loss in sittable space is the result of the sloping floor of the Square which makes some ledge seating too high. The eastern ledge which is 42" high may have been purposefully placed at this height to discourage seating due to the 7.5 foot plus drop on the other side of the ledge.

The fountain was included as sittable space even though its height is only 11.5 inches. It was concluded that 11.5 inches is very close to the optimal criteria of 12 inches. Also, the seating does have a backrest, so it is not deemed as an extremely critical case relative to the rest of the seating ledges which do not meet the criteria. Many of the ledges are a maximum of 7 inches beyond the criteria. Nevertheless, the fountain seating does not meet the criteria

which is unfortunate as people enjoy being near water.

While all of the seating depths at Fountain Square conform quite nicely to the designated criteria, the seating heights do not. The heights are the major reason Fountain Square's "sittable space" is found lacking, and thus, require further discussion.

Fountain Square has many ledges which are significantly higher than 3 feet. While these ledges are often used, they pose some difficulty in mounting for many, and may be dangerous in some cases. For example, one female user of about 50 years of age was observed trying to mount a ledge of 3 feet 5 inches in height - only 5 inches beyond the designated criteria. As she was jumping up, she turned slightly and hit her hip quite hard. As a last resort, she walked to the internal area of the adjacent sub-space (where the ledge is only 33.5 inches high) to mount the other side of the ledge. She then turned herself around to view the main plaza space. The point being that a few inches makes a big difference. Furthermore, many ledges are much higher than 41 inches. This, in my opinion, is poor design. The ledges could have easily been stepped downward to accommodate the sloping floor, and provided easy seating.

When the floor does slope, people usually sit at the lower end. As the ledge becomes higher (a result, once again, of the sloping floor) there almost exists a border in many cases, where people are found leaning against the ledge

instead of sitting on it.

On the other hand, many people use the higher ledges, not only to lean against, but as a ledge upon which to eat. One can argue that some people prefer to stand and eat. However, many do not. It is not clear whether people are engaging in a desired behavior, or simply adapting to the existing environment.

#### Seating Amount

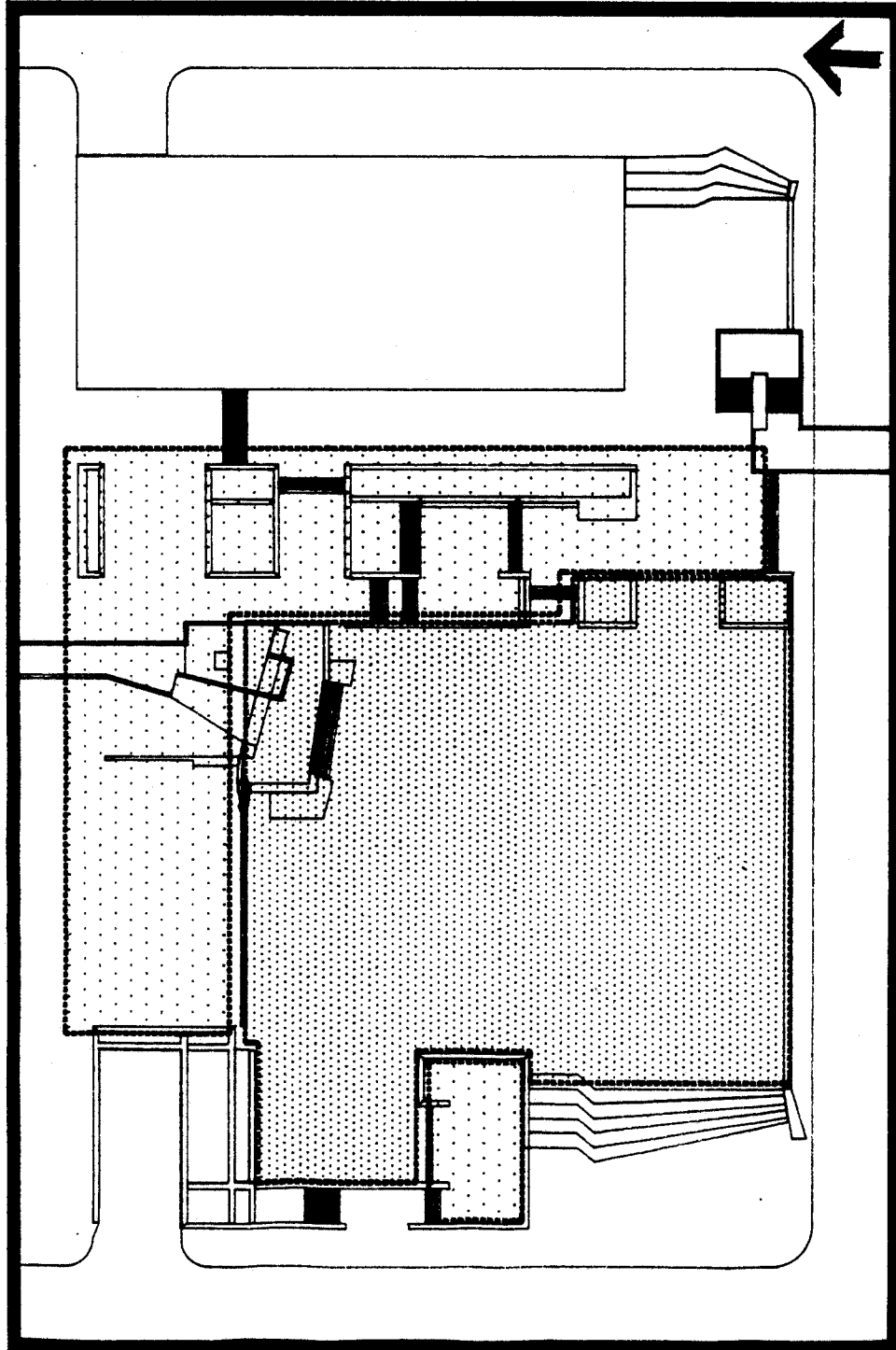
Determining the seating amount for Fountain Square is a difficult task as it requires a subjective decision in designating the total square footage of the space, as opposed to the determination of circulation space. Initial computations did not include the western portion of the square (adjacent to Dubois Tower) as sitters in this area are almost nonexistent during non-peak hours. One cannot directly partake in the squares activities, and thus, it had been concluded this area should be regarded as circulation space. However, upon observation at peak hours, the seating space in the eastern portion is often fully used (surprisingly so, considering some of the ledge heights). Even though the best seating is located on the central space, possibly the eastern portion could be considered a more quiet, sub-space which is not only useful in accommodating the spill over of people in peak hours, but also as a place to sit which is near activity but not necessarily a part of it. In this respect, the

eastern portion of Fountain Square provides another type of seating choice, in addition to the central space. Spaces which are relatively secluded work only when they are a subsection of the whole urban space - not the entire space itself.

Therefore, there are two separate calculations for the seating amount. The first will consider the heavily used central space and its peripheral seating while the second will refer to the seating found in the sub-spaces. See map 2 for demarcation of spaces. The total amount of linear seating will be noted as well as the amount of "sittable" or comfortable seating (that which meets height and width requirements).

As shown in Table 1 the central space does not meet the criteria for "sittable" space, that is, comfortable seating which meet the designated height and depth. Of the available 741 linear feet, 85%, or 630 linear feet meet the criteria. The minimal amount, as calculated by Whyte's formula is 705 linear feet. Thus, the central space does not meet this amount.

The secondary space also does not meet the criteria for sittable space. While the available amount of seating space 661 linear feet, the sittable space measures only 387.5 linear feet, or 59%. The available seating space was determined through observation. During peak usage periods people were found to take advantage of every ledge possible. Some were



Central and Sub-Spaces  
 Fountain Square - Cincinnati, Ohio  
 Spring 1980

Legend

Central	[Dotted Pattern]
Sub	[Horizontal Line Pattern]

60' 30' 0' 60'

2

Linda D. Brett

Table 1

SITTABLE SPACE

	Central Space	Secondary Space	Total
Total Square Footage	28,195	22,480	50,675
Available Seating (linear feet)	741	661	1,402
Sittable Space (linear feet)	630 (85%)	387.5 (59%)	1,017.5 (73%)
Minimal Amount of Sittable Space (linear feet) As a Function of Square Footage	$28,195/40 = 705$	$22,480/40 = 562$	$50,675/40 = 1,267$

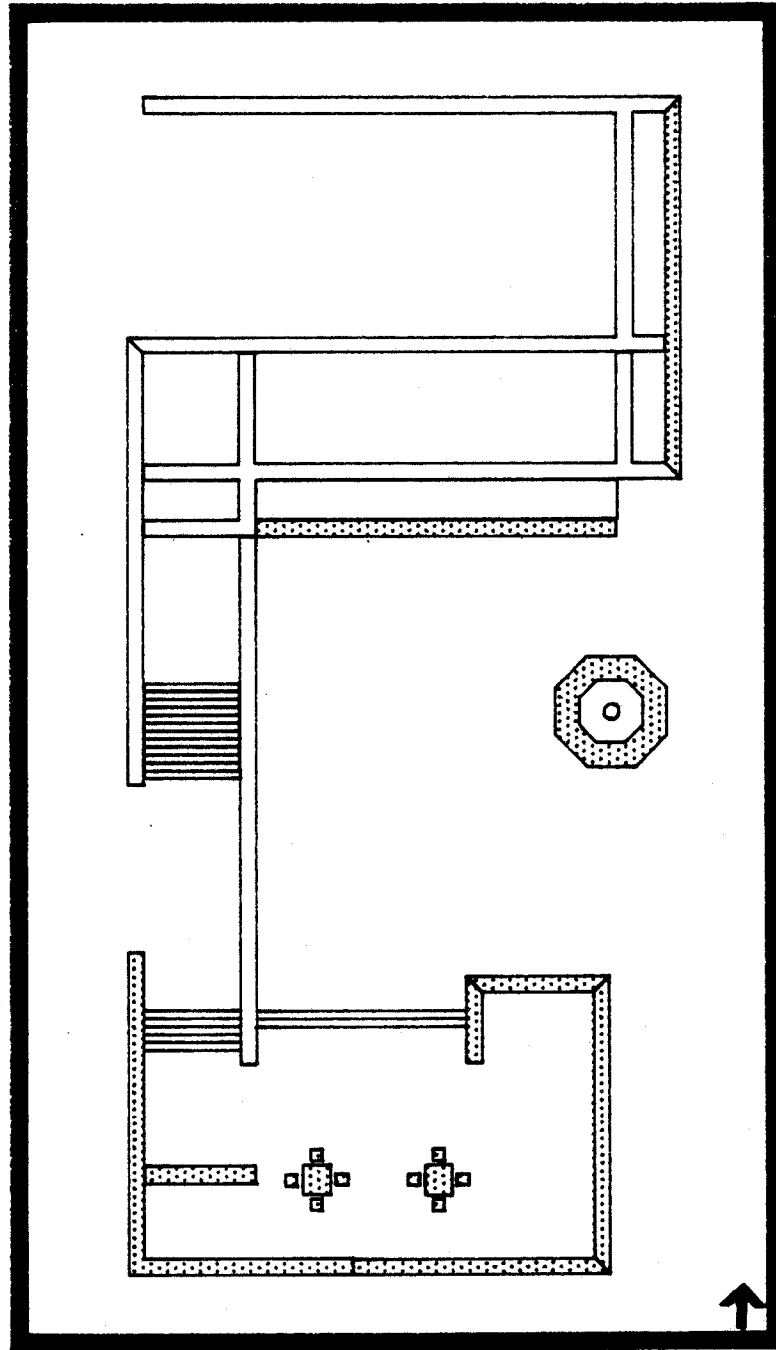
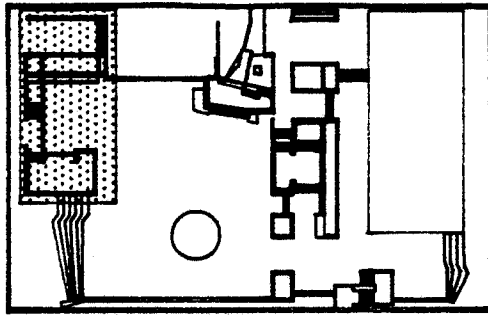
even observed sitting on the ground.

However, some of these ledges which make up the available seating space are considerably high off the ground and must be reached by jumping on a lower ledge and walking along it to get to the seat. This could be quite dangerous, and is not even feasible for many users. It is a positive feature, in general, that this seating exists. However, it would be better if the secondary space had more sittable space. A minimal amount, according to calculations, is 562 linear feet as compared to the 387.5 linear feet which exists.

When the total is taken for the central space and the secondary space, the amount of "sittable" space obviously falls short. The minimal amount which should be available is 1,267 linear feet for the total square footage, only 1017.5 linear feet exists (see maps 3,4, and 5 for location of sittable space).

### Standing

Many people, especially men, can be found standing at the Square during peak use hours. As the seating becomes filled, the percentage of people standing increases. During heavy use, the number of people found standing have been found equal to and even exceeding the number of people seated. This can, most likely, be attributed to a shortage in seating because the number standing is clearly not a stable percentage of those seated throughout the day.

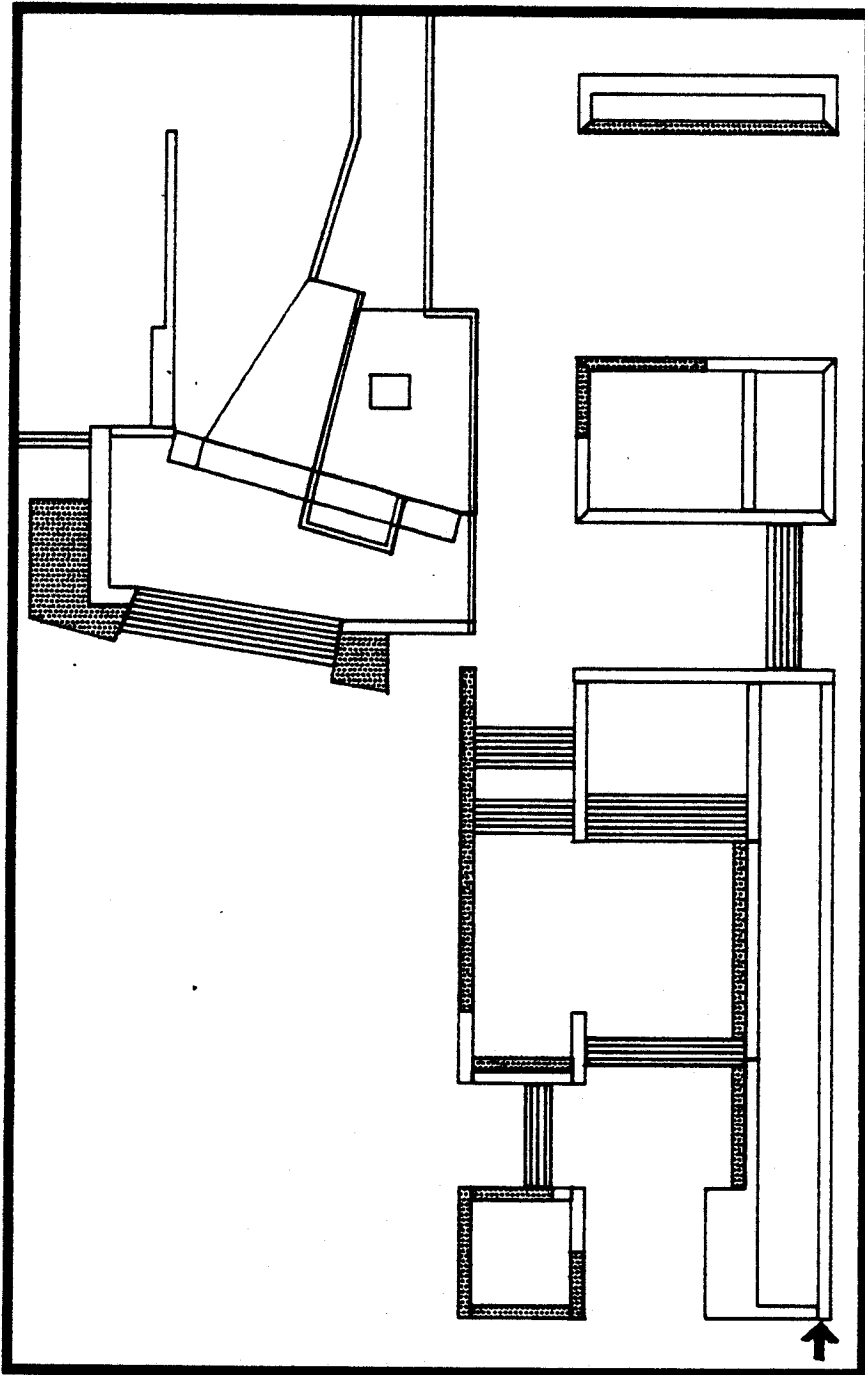
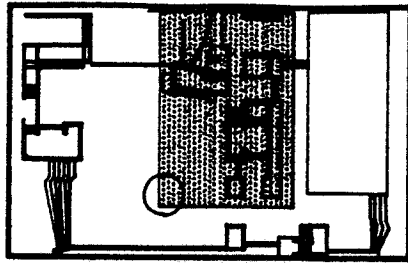


**Sittable Space**  
 Fountain Square - Cincinnati, Ohio  
 February 1979

Legend  
 Sittable Space [Hatched Pattern]

MARCO DE SERRA

3

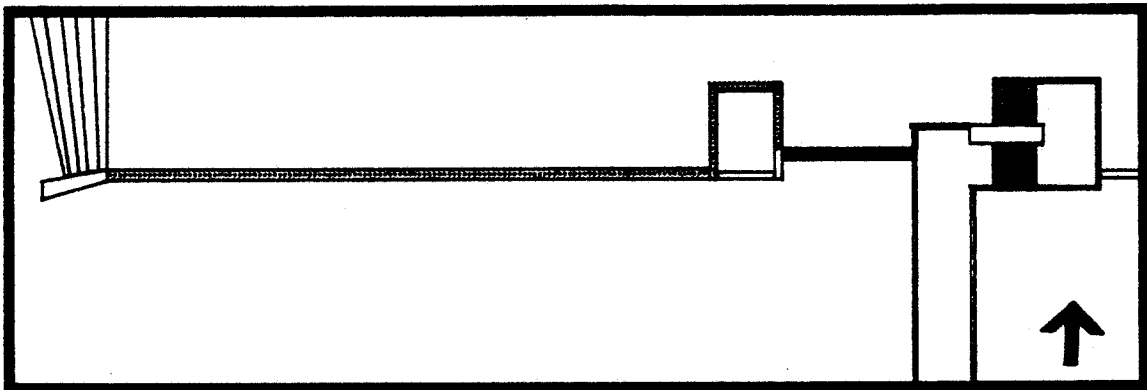
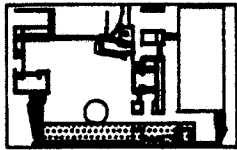


**Sittable Space**

Pennsylvania State University - University Park, PA  
 August 1978

Legend  
 Sittable Space (0.572)

4



**Sittable Space**  
Fountain Square - Cincinnati, Ohio  
Spring 1988

Legend  
Sittable Space [stippled pattern]

4' 2' 0' 4'

Linda D. Stork

5

That is, as the number of people seating peaks, so does the number of people standing.

The most popular place for those who stand is near the stairs which separates the central space from the north space near the arcade. The groups of people standing clearly follow the pedestrian paths which move between Fifth Street and the Arcade entrance to Sixth Street (further discussion in Chapter Five).

In the occurrence of an event, obviously most people stand clustered around the stage. It is interesting to note that within 10 minutes of the event's conclusion, the number of people standing quickly dissipates. However, the number of those standing near the popular stair area remain constant.

#### Group Seating

Observation has shown that a large number of users in Fountain Square are in groups of 2, 3, or more. There are some accommodations for these groups, but not an overabundance. Most is found in the internal, raised level on the western edge of the central space. This may account for its popularity. Many use the tables and chairs coupled with the adjacent southern ledge for holding conversations with 4 or more people. The seating adjacent to the stage also accommodates groups because of its wide depth, and its relation to the stage steps.

The width of the ledges (30 inches) also allows people

to sit indian style and face each other. Younger people are often found sitting in this manner. However, many users have been noted standing when in groups of three or more rather than sitting at the ends of the group. This is unfortunate because many of the people using the space are in groups of three or more.

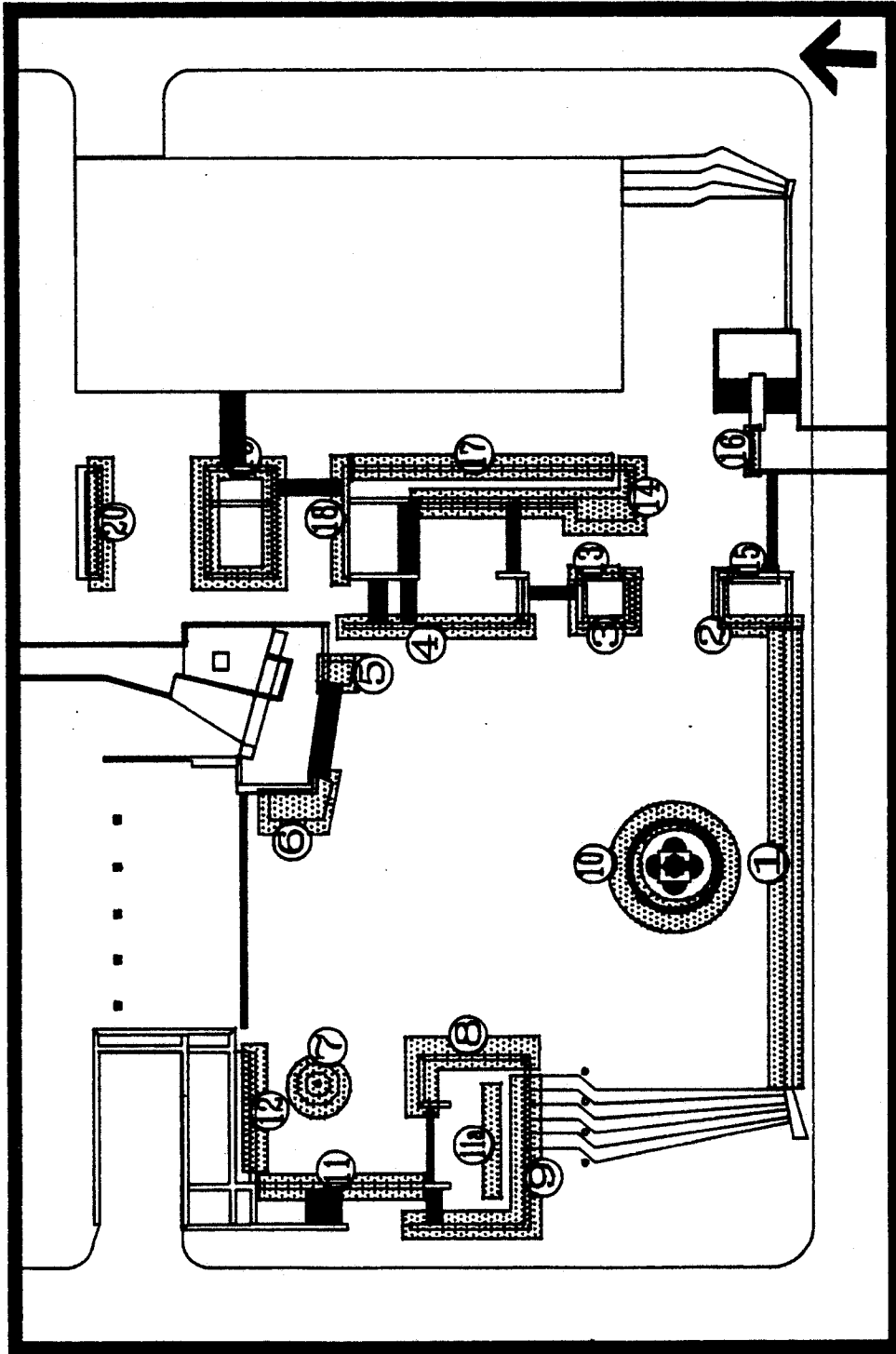
#### Daily Rhythm

The plaza goes through a relatively predictable cycle during pleasant days. In the early hours, between 9:30 a.m. and 10:30 a.m., there are few users. These users consist of a few office workers, mothers and children, and some elderly persons. Young children, preschoolers, have often been noted visiting the Square, most likely on a short field trip. Around 10:45 a.m. the pace begins to pick up a bit. While the majority of users tend to be "casuals", a few office workers drinking coffee (possibly on break) are noted. Around 11:30 a.m., the main crowd begins to arrive. More people can be observed walking through and sitting in the square. Around 12:00 p.m., usage peaks, and remains relatively stable until 1:50 p.m. Thus, Cincinnati has a quite remarkable lunch period that lasts around 2 hours. Many mid size cities average around one hour, whereas, Whyte's studies in Manhattan reveal a 2 hour lunch period. There appear to be two peaks within the lunch hour which are consistent despite the differences in the total number of people using the plaza in

one day. The first peak occurs at 12:30 p.m. ( $\pm$  10 minutes). The second peak occurs at 12:50 p.m. Between 2:00 and 2:10 p.m., the total number of users drops significantly, but remains higher than pre-lunch use. Activity begins to increase around 4:30 p.m. when the "rush hour" begins as people return to their homes. By 6:30, pedestrian movement through the Square drops significantly. It should be noted that a teen-age population enters the Square around 7:00 p.m. However, a study of their use patterns is of a different nature, and beyond the scope of this study.

#### Desirable Seating

In monitoring the numbers of persons sitting, the available seating (not to be confused with sittable space) was divided into several subunits (see map 6). The subdivision was based on two factors. First, it was necessary that the divisions be easily defined spaces so that counts could be taken quickly and without confusion as to whether a user was sitting in one section or another. Hence, the ledges are not divided into units of equal size. A level of efficiency was necessary in order to count the large number of persons in the space at ten minute intervals. Secondly, based on initial observations, the seating was divided into units which appeared to be of equal desirability. Thus, for example, a combination of primary and secondary seating were not integrated into one subunit.



# Seating Subunits

Fountain Square - Cincinnati, Ohio  
 Spring 1999

60' 30' 0' 60'

6

Linda D. Brett

The most desirable seating at Fountain Square appears to be sections one and three (see map 6). There are several factors which contribute to its desirability over other primary seating. First, it is adjacent to the flow of traffic which enters into the plaza from Walnut Street. Whyte has described the relationship between pedestrian flow and seating. Supply is a major factor in determining the number of sitters (Whyte 1988, 166). A second reason why this ledge may be considered more desirable, than for instance, ledge 8 which is also near a major pedestrian flow which moves between the 5th and Vine entrance and the arcade, may be that ledge three falls within the criteria for sittable space whereas about 26% of the linear footage along ledge 8 does not. Thus, the seating of ledge three may be the most comfortable, near a strong pedestrian flow, and offering good views of the activities of the plaza.

Furthermore, the "effective capacity" (Whyte 1988, 166) was determined for each subunit of seating as a measure of comparison. "Effective capacity" refers to the average number of persons who will sit at a place during peak-use periods. This does not hold true for special events, etc. in which people will often reach the physical capacity of the available seating. "Effective capacity" is determined by dividing the number of linear feet of seating by three. "Effective capacity" attempts to account for comfortable social distances between persons sitting in a space. Section three is the only

ledge in Fountain Square which was found to exceed its effective capacity during peak usage on pleasant, warm days.

Most seating which fronts the plaza is well used, while that seating which does not front the plaza works well in taking care of the user spill over during peak periods. When taking pedestrian counts, it was interesting to note the bell curve shape which appeared on the recording chart. The seating sections were placed in ascending order based on their distance from the central space. During peak hours both desirable and less desirable seats are occupied. For the most part, during non-peak periods, only the desirable seats, those which front the central space, are used.

Seating patterns are strongly impacted by weather conditions at Fountain Square. On relatively marginal spring days, where the temperature is a little cool (approximately 65 degrees) and coupled with moderate winds (8 - 10 m.p.h.), people are attracted to seats with sun exposure. Thus, the normal seating patterns are replaced by different ones. People seem to particularly desire those seats in which they could face the south, and feel the warmth of the sun in their face.

During non-peak periods on marginal days, users clearly followed the sun as it moved over the Square. Rather than the normal, even dispersal of persons on a single ledge, sitters clustered on the sun exposed portions. Persons even prefer to sit in sunny, secondary seats rather than shaded,

primary seats. The stage, flagpole and stage steps are found to be quite popular. It appears that warmth and comfort help shape acceptable social distances as do densities.

One last factor which influences seating patterns is the presence of an event or activity at the square. Even very minor events which do not include the presence of music or other productions, tend to draw people near. It is obvious that the clustering of people attract even more people. People like to sit near, or facing the activity and tend to cluster in the general area.

## CHAPTER FOUR

### Pedestrian Movement and Accessibility

#### Design Considerations

People generally prefer to walk directly to their destination. That is, they use direct routes and short cuts. Based on Whyte's study of Manhattan plaza space, when a plaza is flush with the sidewalk, 30% - 60% of the pedestrians will walk through it and use the space. The higher percentage apply to those plazas which aid pedestrians in cutting corners. The lower percentage apply to those spaces which have physical obstructions or which are narrow (Whyte 1988, 162). Thus, the center of the plaza should be kept free in order not to obstruct the natural flows of movement (Sitte 1965, 22).

Furthermore, the plaza should be located near busy street corners, and preferably, adjacent to the "100% corner". The "100% corner", a term borrowed from the real estate field, refers to that corner in which the highest pedestrian flows occur. Subsequently, there also occurs an abundance of socializing and conversing at this corner (Whyte 1988, 58).

The transition from the street to the plaza should be subtle. That is, it should be hard to tell where the street ends and where the plaza begins (Whyte 1980, 54). A difference in floor level represents problems for pedestrians. The change requires more effort to move either up or down and

it poses an interruption in walking rhythm (Gehl 1980, 139). If there must be a change in levels, movement must be free from complications and the connection must appear easy (Gehl 1980, 147). Otherwise, pedestrians will avoid the transition unless it is absolutely necessary.

In this manner the space becomes easily accessible, and provides strong sight lines. If people cannot see a space, they will not use it. Lastly, the adjacent buildings should aid in the enclosure of the space so as to give spatial definition and a sense of place.

Multilevel walkways, such as a skywalk system, contribute to the dispersal of pedestrians over space (Gehl 1980, 99). That is, walkways at the second level take activity away from the street level. This may be devastating in areas where there is not a large enough population to support activity on two levels. The two levels tend to work against each other and compete for pedestrians (Whyte 1980, 82). In addition, sight lines are diminished and the end result may be dull and empty walkways at both levels (Gehl 1980, 100).

Skywalk systems should only be used in dense areas where pedestrian congestion is a problem. Otherwise, it dilutes activity and neither walkway is used to its fullest capacity. Additionally, vertical movement is usually avoided by the pedestrian unless it is in their natural pathway and the vertical - horizontal detour is not obvious (Pushkarev 1975, 173).

### Criteria

1. There should be direct access from an adjoining public sidewalk along at least 50% of the plazas total length of frontage.
2. Along the remaining length of frontage, in order to allow maximum visibility from the street to the urban plaza, no wall should be constructed averaging higher than 36 inches above, nor at any point higher than 5 feet above curb level of the nearest adjoining street.
3. The level of the plaza should not at any point be more than three feet above, nor three feet below curb level.
4. A plaza or portion of an urban plaza extending through the block and connecting 2 streets which are parallel to each other should have a minimum width of 40 feet.

### Existing Conditions and Analysis

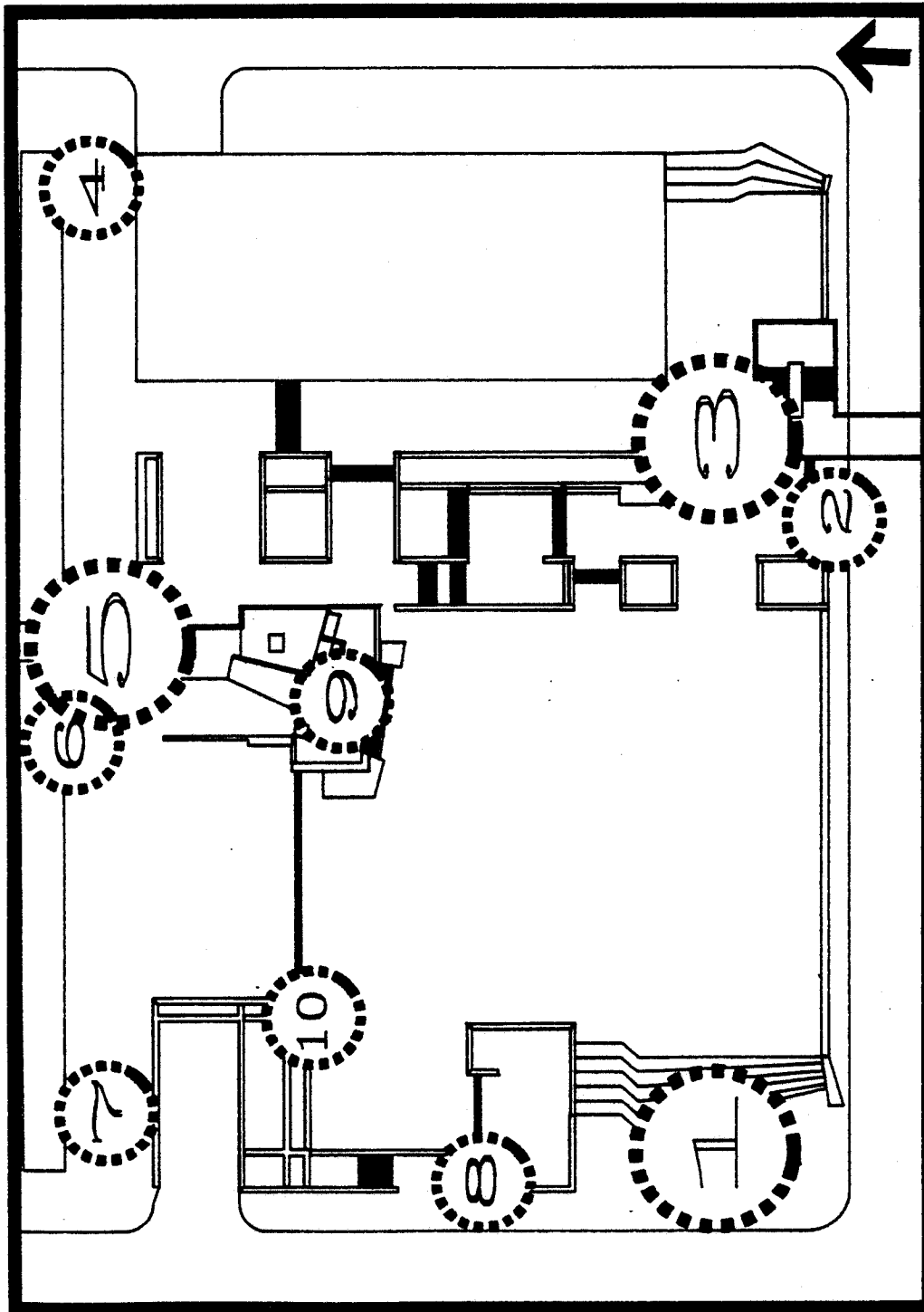
#### Pedestrian Movement

Fountain Square is an integral part of the overall movement in the Central Business District and, in my opinion, is a reason for its great success. As mentioned earlier, there is a relationship between pedestrian flow and plaza use (Whyte 1988, 166). The higher the number of people moving through the space the more opportunities exist for people lingering in the space and for staying. The Square allows through block circulation and the "cutting" or corners. This

is a plus as people tend to minimize the distance between two points and conserve effort.

There are three primary entrances at street level into Fountain Square which are significant to the pedestrian movement patterns through the Square. There are five more entrances to the square which are of secondary importance in the hierarchy of entrances (see map 7). Table 3 presents some crude pedestrian counts at each of the entrances. These counts were derived during peak use hours (11:50 a.m. through 1:50 p.m.) The purpose of these counts is to demonstrate the number of persons moving through each entrance/exit. These counts are for general comparison purposes and do not represent a thorough pedestrian count investigation.

There is a significant hierarchy of entrances and exits. By far, the pedestrian movement into and out of the Square occurs at the Arcade entrance with about 2,360 pedestrians per hour at the peak use period (number 5 on map 7). Given the size of the Arcade entrance, this movement occurs within a very compact area and results in a very lively, dense subspace. The primacy of the arcade entrance may be the consequence of the following factor. The arcade leads to Sixth Street which is abundant in restaurants - both carry out and sit down. Also, there are several retail



# Entry Zones

Fountain Square - Cincinnati, Ohio  
Spring 1989

**Legend**

- Primary
- Secondary



7

Linda D. Brett

Table 2

PEDESTRIAN COUNTS  
DURING PEAK USAGE PERIODS

<u>Entrance</u>	<u>Persons per Hour</u>
Fifth and Vine (Entry 1)	1,352
Fifth and Walnut (Entry 3)	1,544
Arcade (Entry 5)	2,360
Fifth near Westin (Entry 2)	824
Northeast Entrance (Entry 4)	332
Escalator to Skywalk (Entry 6)	528
Northwest Entrance (Entry 7)	372
Stairs near Stage (Entry 9)	212
East Stairwell on Vine (Entry 8)	188

shops on the street. These types of land uses generate pedestrian traffic which is frequent in turnover. Sixth Street, when compared to the other three streets adjacent to the Square, provides the most pedestrian generating land uses. Thus, the movement through the arcade entrance may reflect such high pedestrian counts because of the adjacent land uses which serve the large office population with restaurants and carry outs for lunch, as well as with retail services.

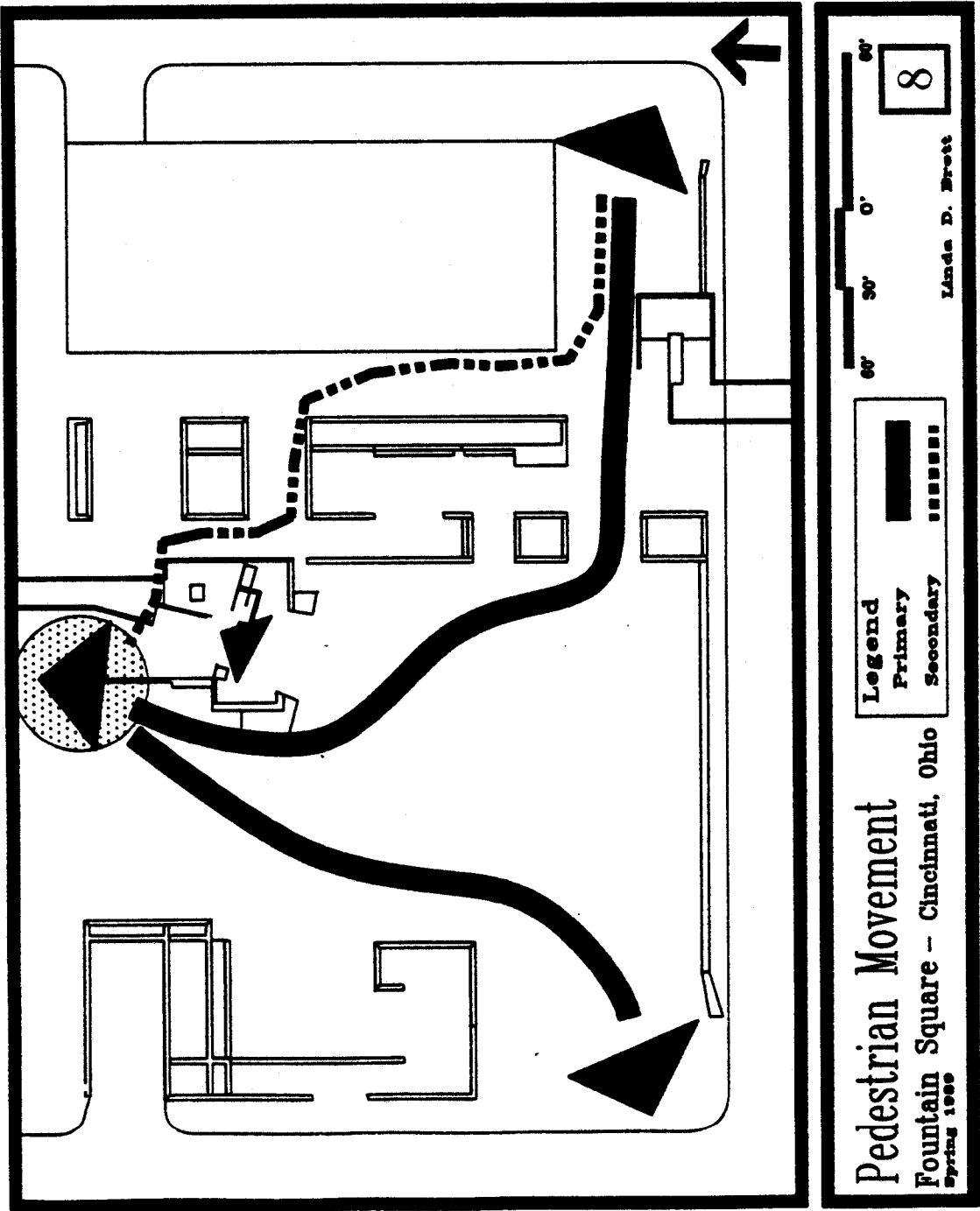
The other two primary entrances are located at the intersection of Fifth Street and Vine, and near Fifth Street and Walnut, entrances 1 and 3 respectively (see map 7). These two entrances average about 1400 pedestrians per hour during peak use periods. However, entrance number three is directly adjacent to entrance number two which adds the movement of another 800 people per hour in that general entrance area. Since entrance 2 and 3 are funneled, so to speak, through several seating ledges, it appears as a much busier, livelier space. This may account as part of the reason why ledge 3 is one of the most popular seating areas. To reiterate, pedestrian flows are directly related to the numbers of persons who will sit in a space. The more people walking through a space usually result in greater numbers sitting in the area.

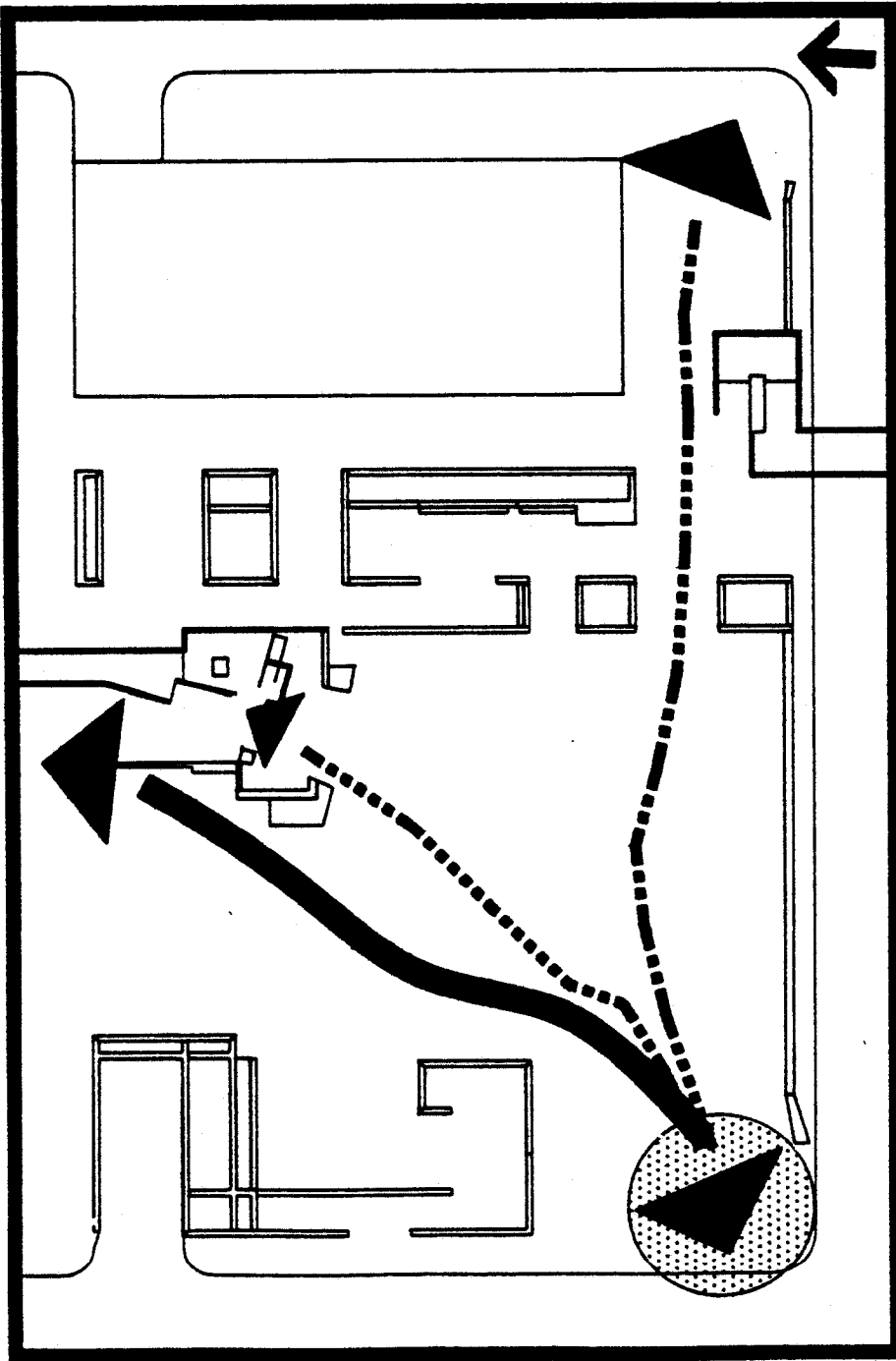
The rest of the entrances and exits are of a relatively secondary nature. The escalator which leads to the skywalk,

and which is adjacent to the arcade entrance services about 500 persons per hour at peak use periods. All the rest of the entrances (numbers 4, 7, 8, and 9) service under 375 persons. Thus, 3 out of the 9 entrance areas are carrying 79% of the people moving through the space.

As a result of the primacy of these three entrances (numbers 1, 3 and 5) , and their location, the general movement through the Square is basically north-south in orientation rather than east-west (see maps 8, 9, 10, 11 and 12 for pedestrian paths). There does not appear to be enough vital, pedestrian generating land uses to sustain a strong east-west flow. On the west side of the Square is Fountain Square West, which at this point is abandoned. Most of the windows which front the street are empty. This has a devastating effect on the life of Vine Street. However, future development of the site is in the planning stages. On the east side of Fountain Square is DuBois Tower. There are no significant retail uses or restaurants located at the ground level at this time. However, it appears that a restaurant-bar is underway on the northern side of the Tower. This may be one of the reasons there is no a strong east-west pedestrian flow.

Since most movement is north-south, the six entrances converge at the stairs which separate the main plaza from the northern sub-space adjacent to the arcade. These steps run between the stage and the elevator. Hence, this is a





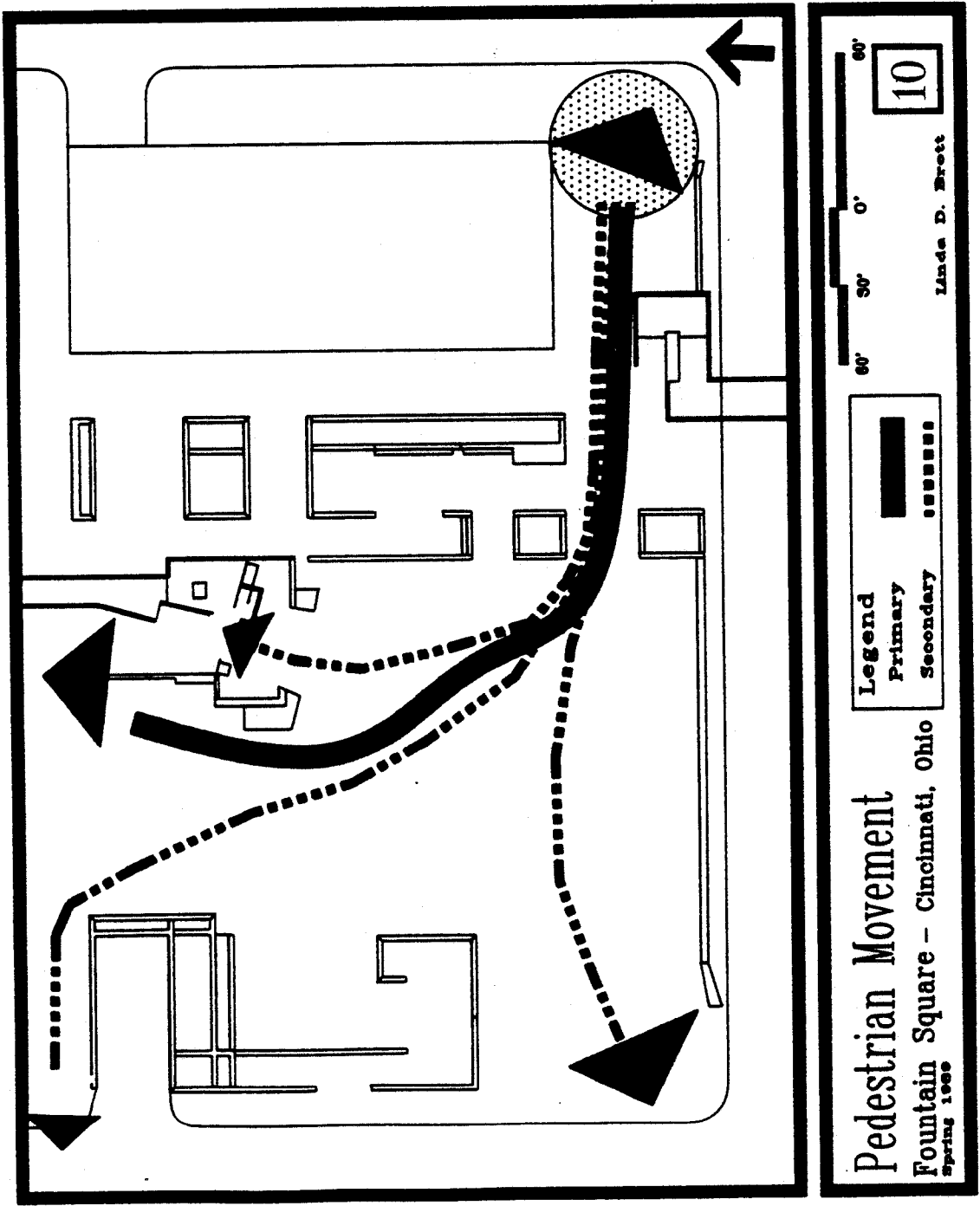
**Pedestrian Movement**  
**Fountain Square - Cincinnati, Ohio**  
 Spring 1988

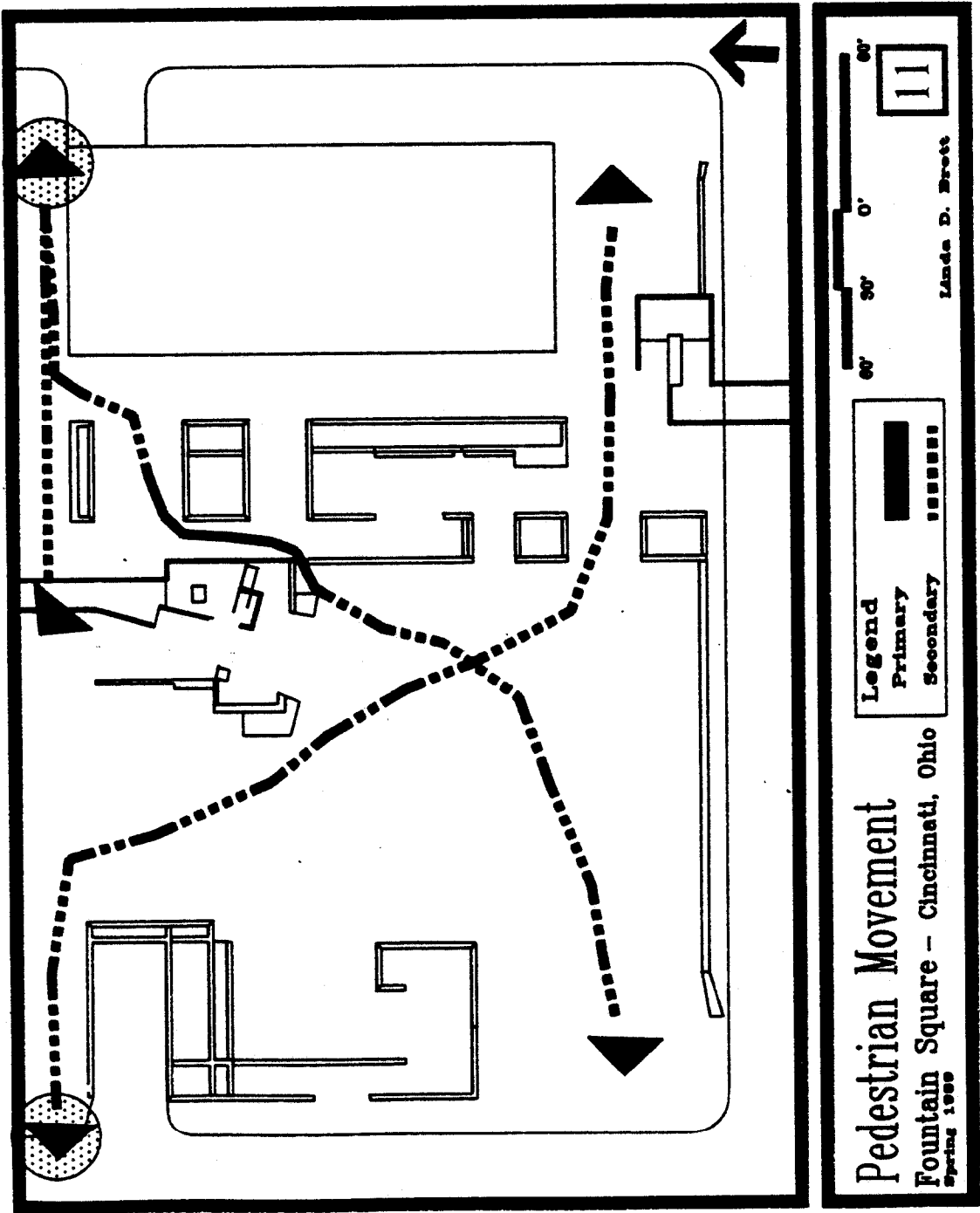
**Legend**  
 Primary [thick solid line]  
 Secondary [dashed line]

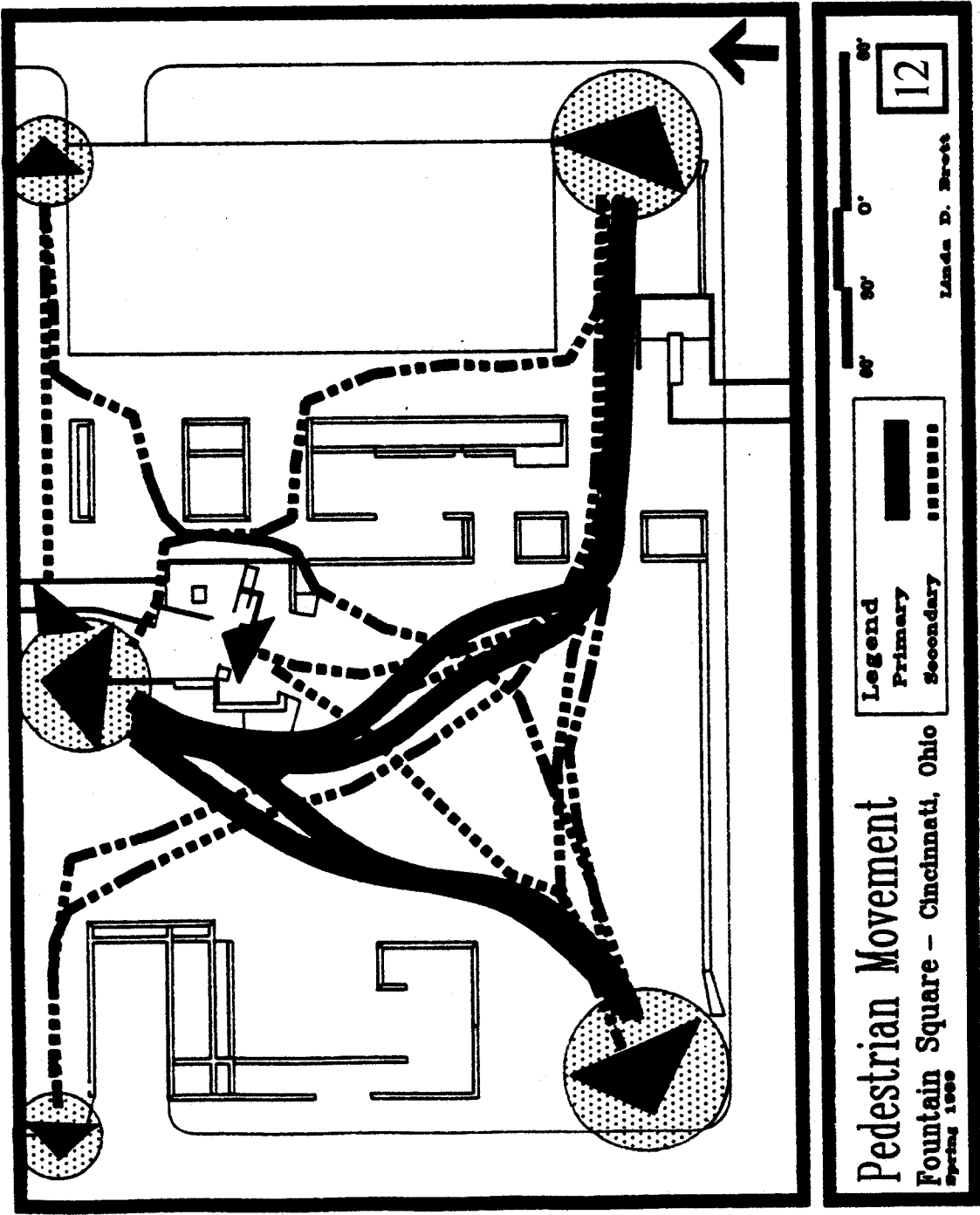
0' 30' 0' 60'

9

Linda D. Brett







densely traveled area., and a "gateway" so to speak. What is interesting is that these steps are a consistently favorite place for people to stand. Similar to the 100% corner dynamics about which Whyte speaks. In the absence of a scheduled event, those standing seem to spill away from the steps along two very distinct paths. These paths follow exactly the two heavily travelled paths which lead to entrance/exit numbers one and three. As one moves south along the pathways away from the gateway, the density of people standing and "schmoozing" decreases.

#### Accessibility

In general, Fountain Square meets the criteria for accessibility quite well. The criteria call for direct access from an adjoining public sidewalk along a minimum of 50% of the plaza frontage. Fountain Square allows 66% of its total frontage as direct access areas. In part, the large percentage can be attributed to the southern boundary which is in itself, the continuation of the public sidewalk between Vine and Walnut Streets. This through block circulation makes pedestrian traffic in the Central Business District a part of the Square's activity.

Where walls exist along the frontage, the heights should average about 36" to ensure maximum visibility. The criteria also discourages any walls which are over five feet in height at any point. It is here where some accessibility issues

arise. The seating ledges along the eastern border (near DuBois Tower) average a height of 41". Furthermore, along the north-eastern border, on ledge point reaches a height of 8 feet.

The western border also possesses some height problems. Along Vine Street, the walls are 6' to 8' above curb level which seriously hinders visual accessibility. Part of the problem is due to the fact that the central square space is significantly raised from the street level. Both the south and north borders are open to the adjoining sidewalk and thus, do not present accessibility problems.

The plaza is raised off the ground, but still meets the designated criteria. There are six steps with a riser of 5 inches. The criteria allows a maximum of three feet above or below curb level. Fountain Square's southern entrances are only 30 inches above curb level. In addition, the tread of these steps is quite generous (five feet at the maximum point), thus resulting in a gradual climb which is subtle and easily traversed.

The entrances at the northwest and northeast corners are not so subtle (entrance numbers 4 and 7 respectively). In both cases, the plaza is more than 36 inches above curb level and the stairs have a 5 inch riser and 12 inch tread. Thus, the transition requires much more effort.

Lastly, the criteria call for entrances which have a minimum width of 40 feet. Once again, the southern entrances

meet this criteria while the northern entrances do not.

## CHAPTER FIVE

### Adjacent Land Uses

#### Design Considerations

The adjacent street and what surrounds the plaza is one of the most critical factors in a plaza's success. The best uses, those which influence the activity of a plaza, are those which generate the most pedestrian trips and which have high customer turnover rates. In this manner, activity is likely to spill over into the plaza. Furthermore, the surrounding uses should have a direct relationship to other people and the surrounding social environment (Gehl 1980, 30). These uses not only generate pedestrian traffic but result in window shopping and a stimulating environment. As a result, people in the plaza watch the people on the street. Banks and offices, on the other hand, do not offer the same type of pedestrian trips or interest level. Trip to a bank are usually quite purposeful and direct. Retail uses, on the other hand, are more leisurely and impulsive. Thus, people wander in and out of shops and are more apt to linger. Whyte further describes the optimal physical facades of the uses as having broad, open entrances, doors and windows facing the street and are flush to the sidewalks on deep, narrow lots (Whyte 1988, 103). This configuration assembles and integrates activity and results in a lively, interesting street. A lively street is a necessity for the life of the

urban space.

Furthermore, food attracts people, which in turn, attracts more people. Food vendors know which spaces work, as they are always testing the market (Whyte 1980, 50). That is, they will be where the action is and reinforce the activity. Food vendors are extremely functional and people like them. People like to eat outdoors when it is possible, and usually vendors supply the most convenient means to do this (Whyte 1988, 26). At the minimum, public plazas should have a snack bar with accompanying tables and chairs (Whyte 1980, 50).

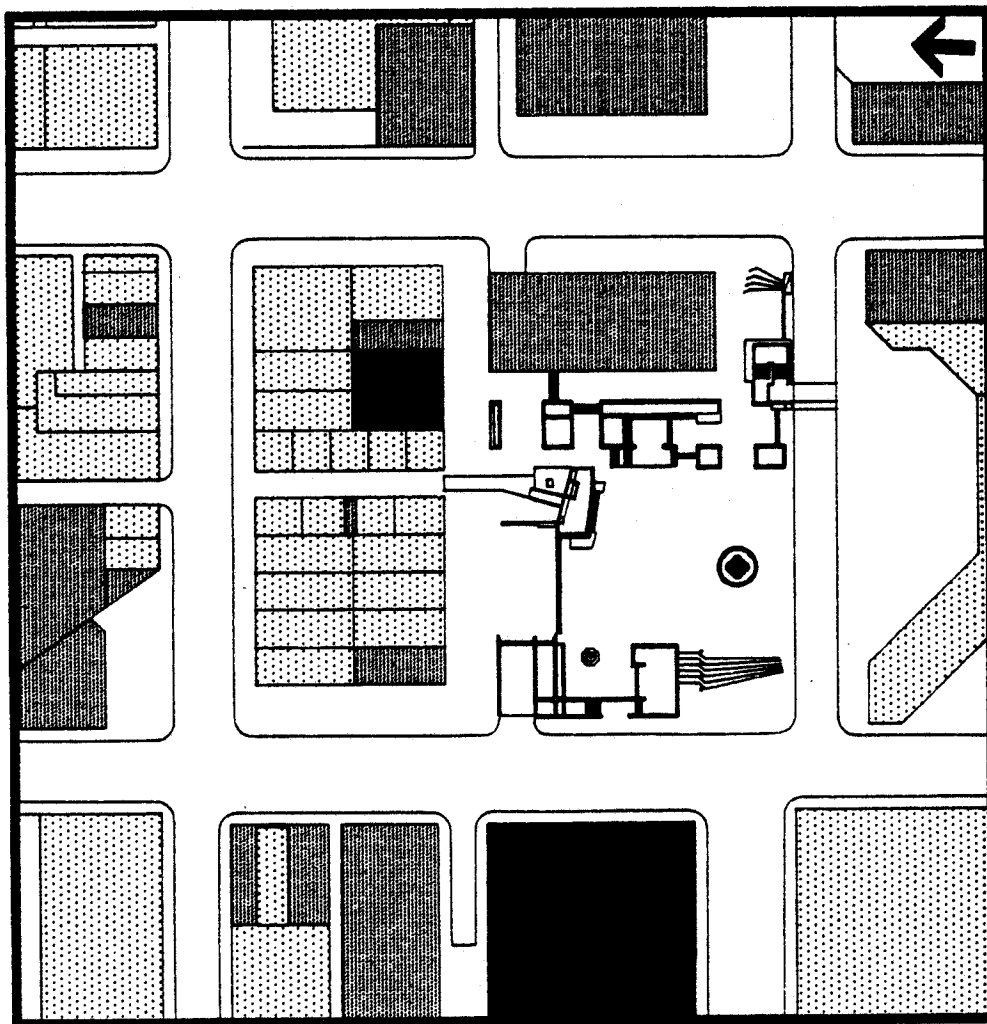
#### Criteria

1. Optimally, 100% of the total frontage of building walls of the development fronting on the urban space, or fronting on an arcade adjoining an urban space should be allocated to retail or service establishments. Frontage may include libraries, museums and art galleries. These uses do not include banks, loan offices, travel agencies or airline offices.
2. All of the above uses should be directly accessible from the urban space. Also, each use should have transparent glass fronts to maximize visual and psychological accessibility.
3. At least one basic food supplier should be located adjacent to the square.

## Existing Conditions and Analysis

Unfortunately, Fountain Square lacks a truly supportive context in many instances. However, the space does work, and work quite well. One can only envision that the quality of the experience would be significantly higher if Fountain Square had a stronger relationship with its surroundings.

First, the adjacent land uses on the northern border of the Square will be considered. The arcade is located north of the plaza, and presents both positive and negative impacts. The Arcade fronting Sixth Street provides many diverse retail uses and many restaurants (see map 13). The small scale of most of these structures allows more uses to occur within the given length of the street. Thus, many pedestrian trips are generated and result in the strong flows which move in and out of Fountain Square through the Arcade entrance. However, many "holes" exist in the uses of the Arcade which front the Square. Surprisingly, there are two vacancies, an entrance to the Fifth Third Bank and also, the Nynex Business Center. In these four instances, the uses have no supportive relationship with the Square. It is of interest that the vacancies occur near the north east entrance which has relatively low pedestrian flows. It may be the case that there is not enough activity to support uses which are reliant on impulsive shopping behaviors.



**Land Use**  
**Fountain Square - Cincinnati, Ohio**  
 Spring 1988

Legend  
 Retail/Service  
 Bank/Office  
 Vacant

150' 0' 150'

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Linda D. Brett

Moving to the eastern frontage is the DuBois Tower of Fifth Third Center. This is, basically, dead space. While there are windows at the ground level, there is not much to see except lobby space and elevators. However, it appears that a restaurant or lounge is being constructed at the north west corner of the building. This may aid in drawing some activity to this relatively unused portion of Fountain Square. This may also initiate occupancy in the existing vacant uses which are adjacent to this space.

The southern frontage, located on Fifth Street is comprised of the Westin Hotel complex. At the ground level, there exist two restaurant-bars, three retail outfits and Fountain Square South - the indoor counterpart to Fountain Square. While these uses do provide glass frontages, the shops and restaurants do not have entrances on Fifth Street. Rather, one must enter the hotel complex at the corner of Fifth Street and Vine Street, or enter the complex at the atrium entrance (Fountain Square South) which is on Fifth Street. In this manner, the complex insulates itself from the existing street life and turns its back on Fountain Square. Accessibility is further hindered by the high class nature of the hotel, and the resultant security guards which attempt to keep out the "undesirables" and non-paying customers. While conducting observation sessions from the third floor of the Westin, this author was continually questioned as to the nature of my activity and consistently

reminded not to "bother" the paying customers. The point being that truly urban places are a complete, mixture of all types of people, such as Fountain Square. The exclusivity of the Westin is not compatible with the activities of the Square, and certainly do not contribute to the potential symbiotic relationship. Fountain Square South will be investigated in further detail in Chapter Nine.

The Vine Street frontage also poses some problems at the time of this writing. The vacancy of Fountain Square West has left blank walls at street level. The City of Cincinnati's intentions for the place include a new structure which will house a mixed use development. Retail continuity is mandated by zoning along Vine Street. However, financial backing is still underway. The northern half of Vine Street does not offer a much brighter picture. It contains the Citizen Federal Bank, a Delta Airline Office and the Terrace Offices - none of which meet the specified use criteria.

Lastly, the Skywalk adjacent to the Square, also provides a myriad of land uses. Immediately north of the square, at the skywalk level, is the Fifth Third Bank. Not only does this use not meet the criteria, but its appearance is that of a blank wall. The tinted windows, and shades do not allow one to observe the activity within the space. As one moves westward and crosses Vine, the atmosphere becomes much more interesting. There are several food places, a gourmet coffee shop, a convenience center as well as a courtyard.

However, one must evaluate the impacts of the skywalk system upon street level activity, and whether Cincinnati has a large enough urban population to sustain activity at both levels. This topic is beyond the scope of this paper, however, comments about the impacts on the Square are in order. There are two arguments against the presence of a skywalk system near the city's prime urban square which are inter-related. First, is the competition which exists between the uses of the ground level and of the skywalk level. People will generally stay at one level or the other. People, for the most part, do not like to expend the energy of moving up and down stairs. This is one of the major arguments for the need of a plaza to be located at street level in order to be successful. Thus, skywalks tend to take some people off the streets. Especially when the walkways are part of an entire system as opposed to merely linking a few key office buildings. Thus, the first argument against skywalks is the dispersal of pedestrians on two separate levels which are not physically interrelated. The less people which are found using the street level results in several repercussions which impact the overall health of the retail uses at ground level. Furthermore, the fewer people walking near the Square results in lower levels of users in the plaza.

The second argument addresses accessibility. As mentioned, plazas are most successful when they are at street level and when they work as part of the natural flow of

pedestrian movement (as opposed to being either sunken or elevated). A skywalk, naturally, requires its users to make a clear decision as to whether to go down a stairwell to enter the plaza. In effect, the plaza is not part of the natural pedestrian flow in which pedestrians can impulsively linger in the plaza. Those spaces which do not have discernable boundaries are the most successful because they do not require a conscious decision to use them. Rather, people easily flow into these spaces without realizing they have become a part of the space, and thus, may choose to linger awhile.

Overall, it seems that Fountain Square works despite all the adjacent use shortcomings. It may be the case that the Square is, generally, a destination in itself. This may occur because of the Square's size, strong identity, and its symbolic meaning to Cincinnatians. Most of Whyte's work was representative of much smaller and plentiful urban spaces in Manhattan which are generally not a strong symbol of the city itself. However, it is my opinion that the quality of the space could be deeply enhanced if its surroundings worked with the space. Furthermore, it is possible that week-end and non-peak usage could be greatly increased if the adjacent uses were of a more attractive nature.

## CHAPTER SIX

### Microclimate

#### Design Considerations

There is significant potential for extending outdoor stays by manipulation of the microclimate which may have considerable impact on usage. Outdoor activities can be severely limited by uncomfortable weather conditions. While these conditions are a given, the microclimate of a space may be somewhat manipulated. It has been suggested that "the outdoor season can be extended up to thirty percent through careful control of exposure to wind and sun" (Bork 1985, 89). If this is the case, then plaza usage could not only be extended but improved overall.

Of all microclimatic features, warmth is the most important (Whyte 1980, 45). The use of trees and hedges may provide protection. However, they should be related to sitting spaces. Trees and vegetation provide enclosure, comfort, as well as protection. Any large planters in the space should be sittable. There should be at least six trees for a plaza of 5000 square feet (Whyte 1980, 46). A choice of sun or shade, and a southern exposure provides the most pleasant experience (Whyte 1980, 43). The correlation is obvious, sun and warmth bring people out, while rain and cold keep them indoors. It is the marginal days where the microclimate plays a central role (Whyte 1988, 133).

Furthermore, The exposure of sun is not as critical in the warm summer months because people may find more comfort in the shade. Only on very hot days (90 degrees or more) will the sunny spots be vacant (Whyte 1988, 133).

Lastly, "high freestanding towers generate tremendous drafts down their sides which can make for an extremely uncomfortable environment" (Whyte 1980, 45). High winds can make those marginal days too cold to sit outside. Therefore, if a strong wind does exist in a space, vegetation and niches may somewhat alleviate this problem.

#### Criteria

1. There should exist at least six trees with a 3.5 inch diameter for every 5000 square feet of plaza space. These trees should be related to the seating areas.
2. Most of the plaza should receive sunlight. Shadows by surrounding buildings should be minimal.
3. Down drafts from adjacent high rises, and wind turbulence in the space should be minimal.

#### Existing Conditions and Analysis

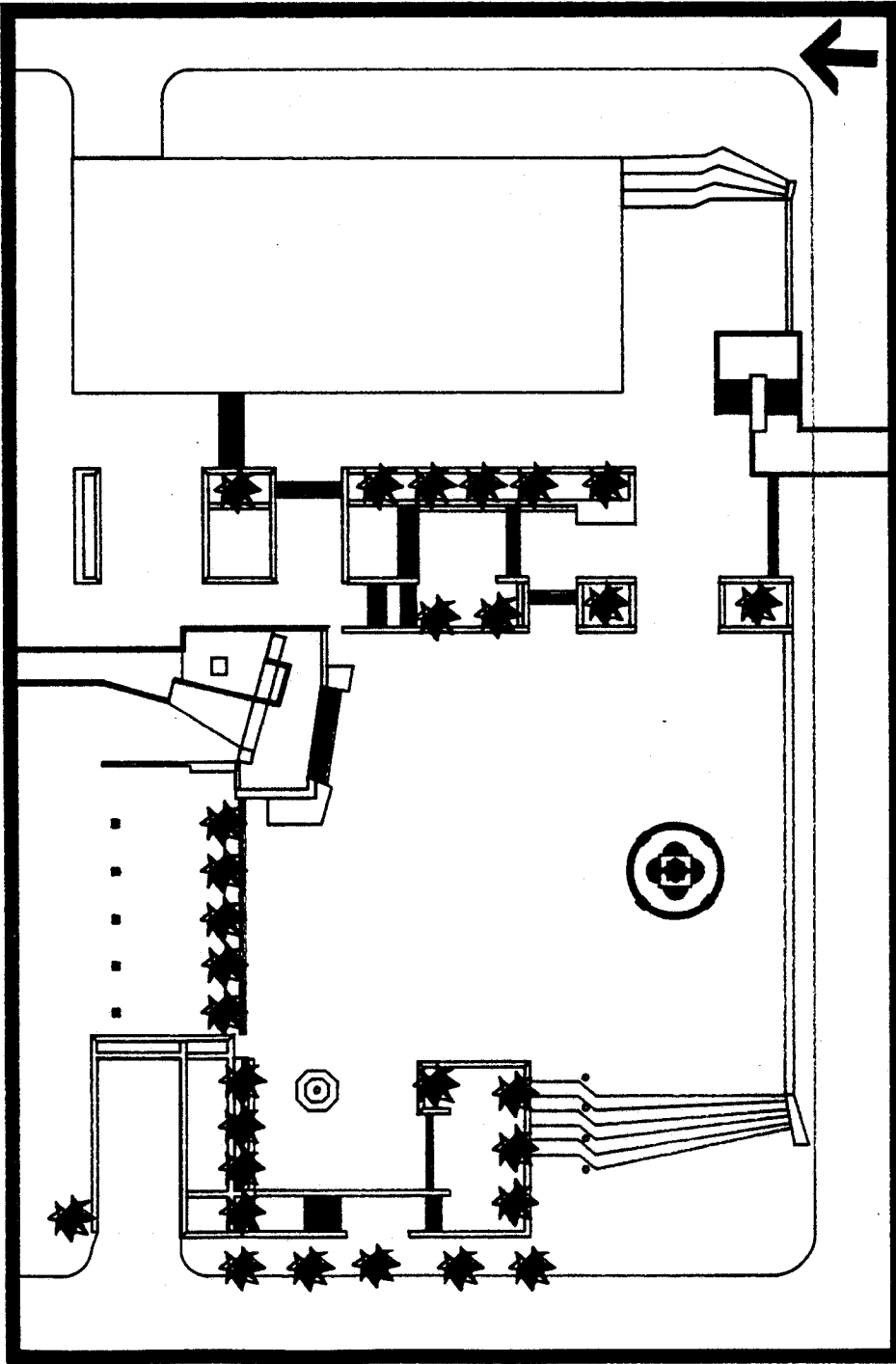
There is approximately 50,000 square feet of plaza space, thus, there should be about 10 trees located in Fountain Square. The Square far exceeds this amount with 22 good sized trees. The trees are all located near the seating ledges (see map 14 for location of vegetation). Five of the trees are

the central space) which provide shade and a comfortable edge for the many people found standing in this general area.

The most obvious seating area without trees is the bench which runs parallel with Fifth Street on the south border of the Square.

One exceptionally dark area on the Square is the area closest to DuBois Tower and the entrance zone north of DuBois. This area also receives the heaviest wind turbulence and down drafts from Dubois Tower, making it a rather cold feeling space.

The central space and most of its surroundings receive adequate sun during peak hours. the only problem occurs during the Winter months when most of the Square is shaded due to the long shadows (see maps 15 through 28 for seasonal shading of the Square). Unfortunately, the marginal days during the winter, are when the sun is most needed. If the Square were sunny, during winter months, some may be persuaded to enjoy the outdoors during relatively moderate days.

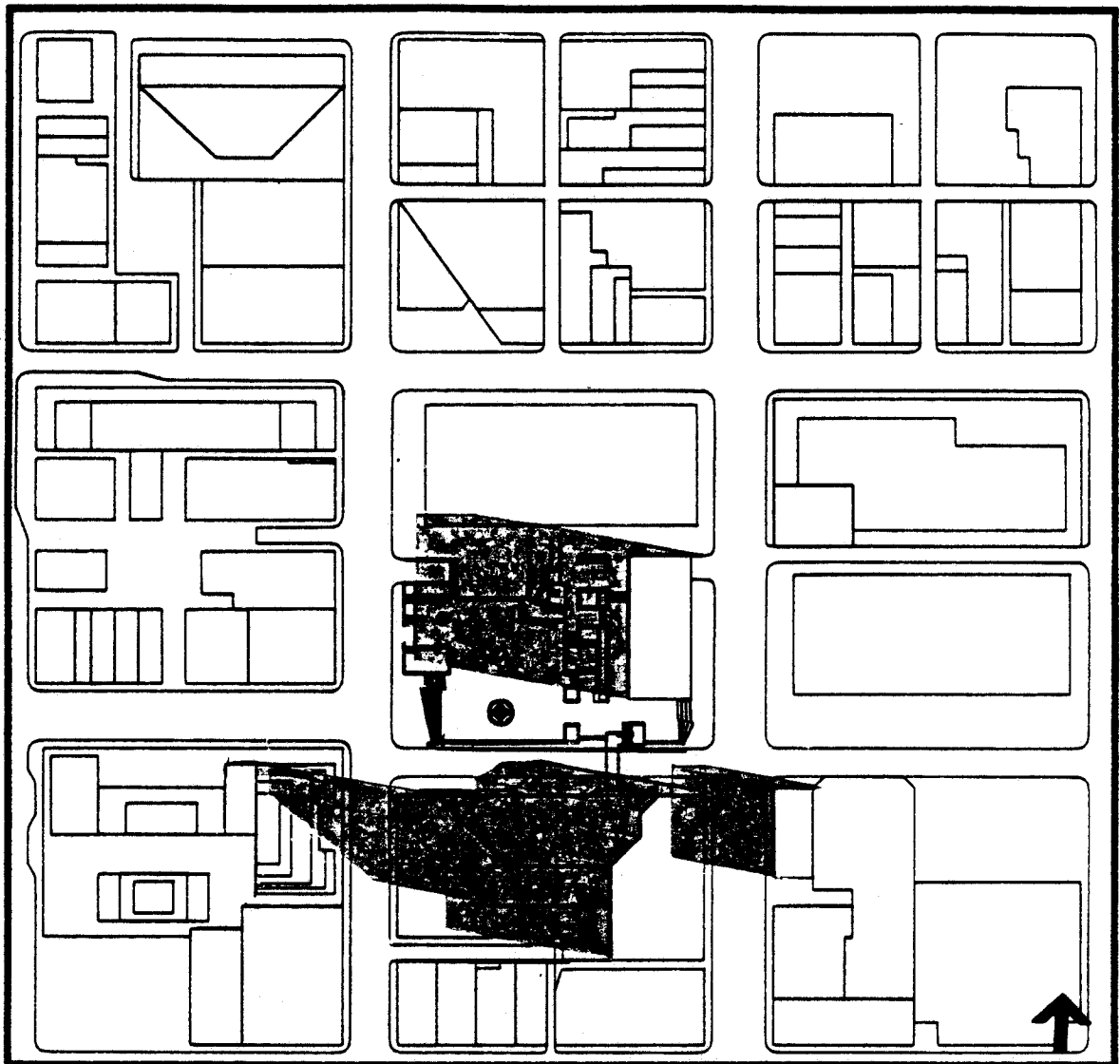


60' 30' 0' 60'

14

Linda D. Brett

Vegetation  
 Fountain Square - Cincinnati, Ohio  
 Spring 1988

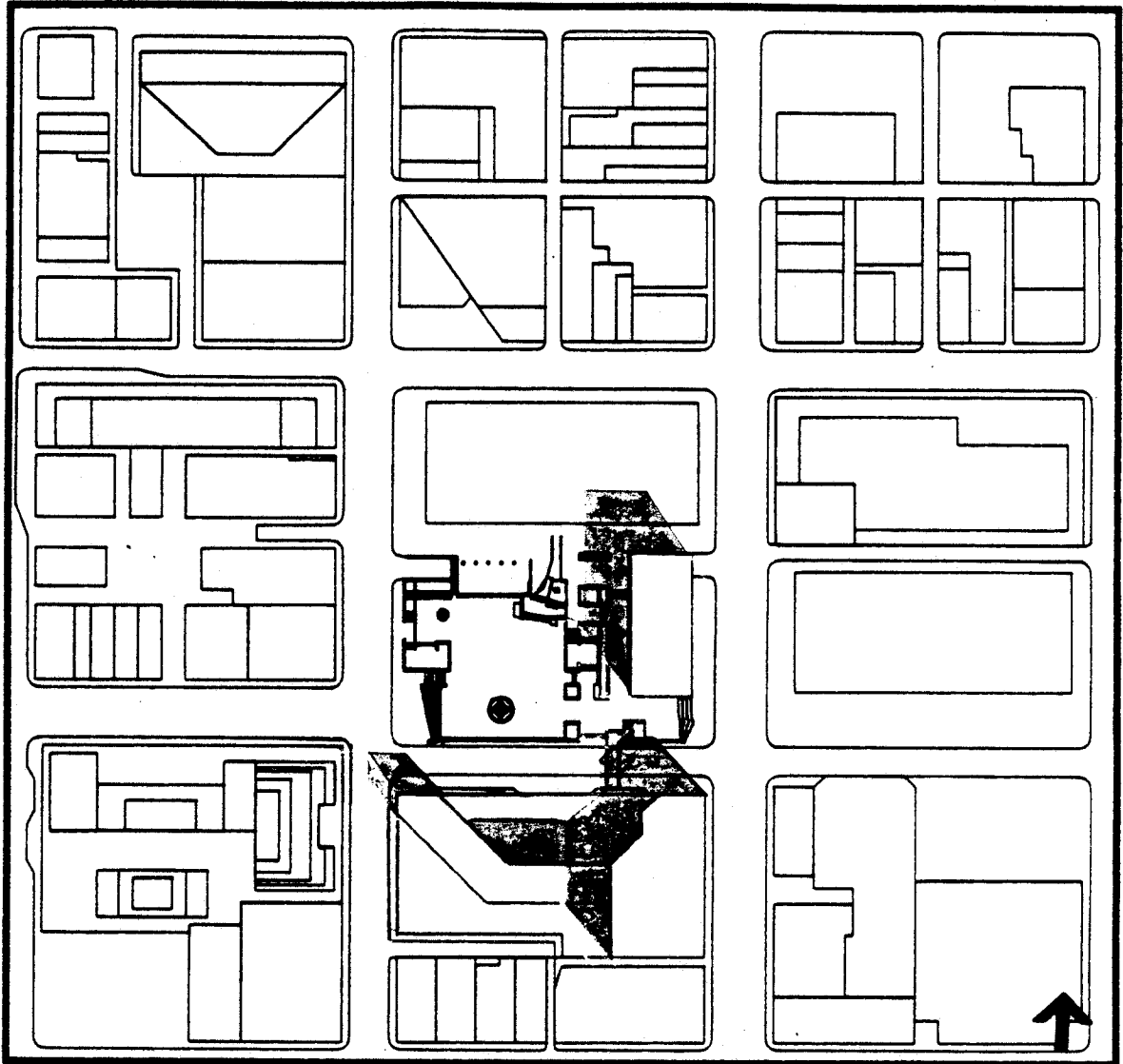


Shadow - Midsummer Solstice 9 a.m.  
Fountain Square - Cincinnati, Ohio  
Spring 1990

200' 100' 0' 200'

Linda D. Brett

15



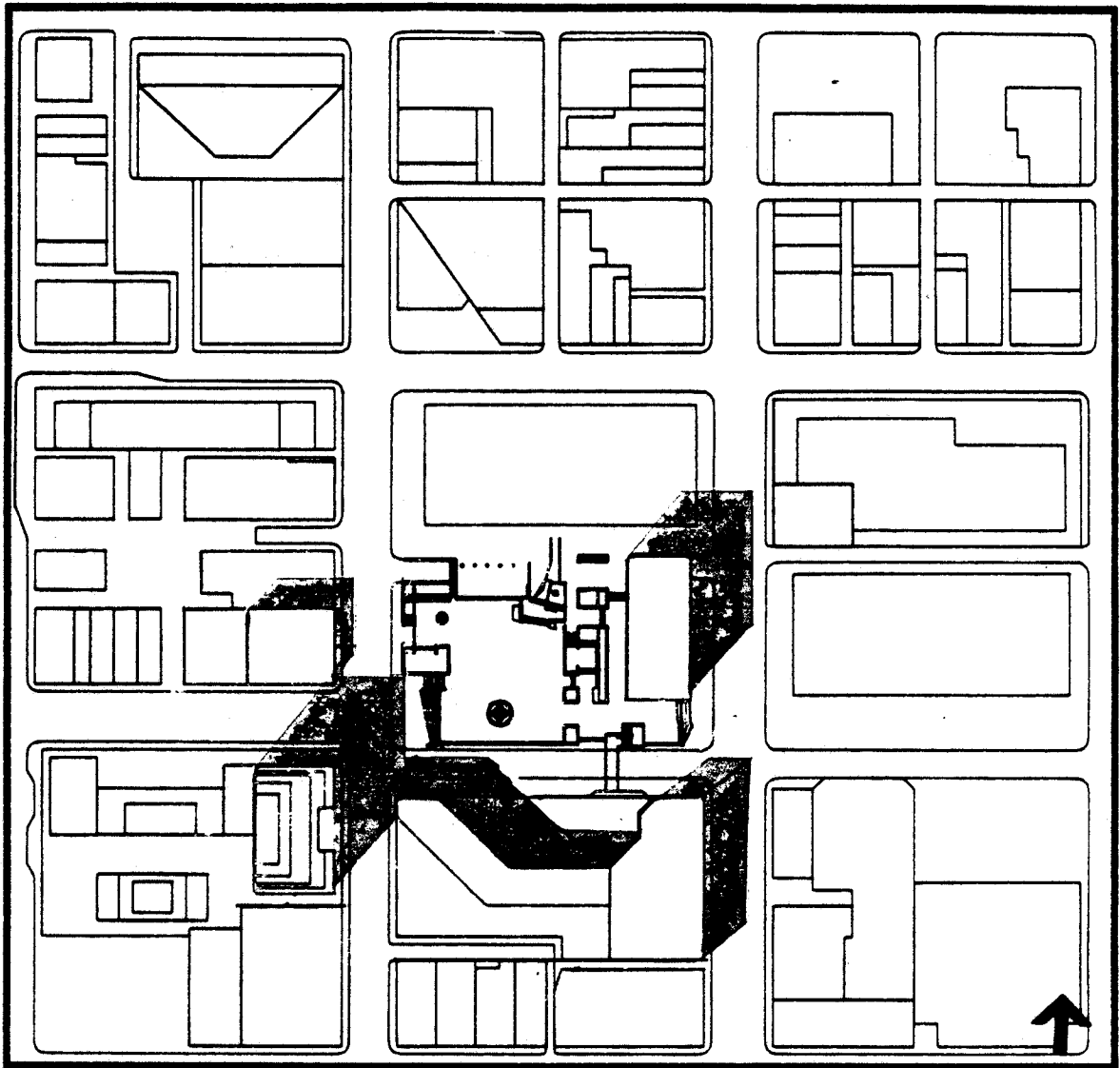
Shadow - Midsummer Solstice 11 a.m. 200' 100' 0' 200'

Fountain Square - Cincinnati, Ohio

Spring 1989

Linda D. Brett

16



Shadow - Midsummer Solstice 1p.m.

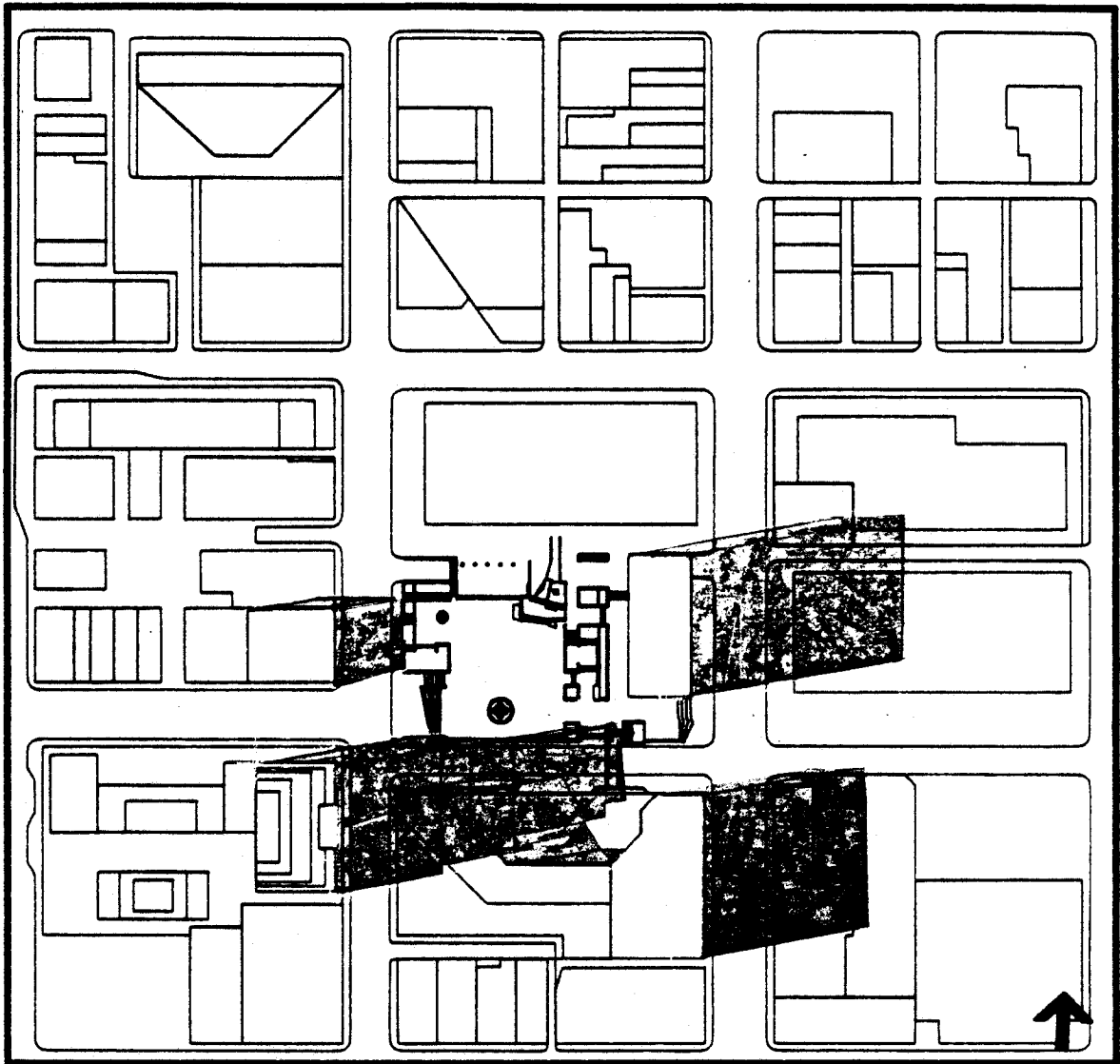
Fountain Square - Cincinnati, Ohio

Spring 1988

200' 100' 0' 200'

Linda D. Brett

17



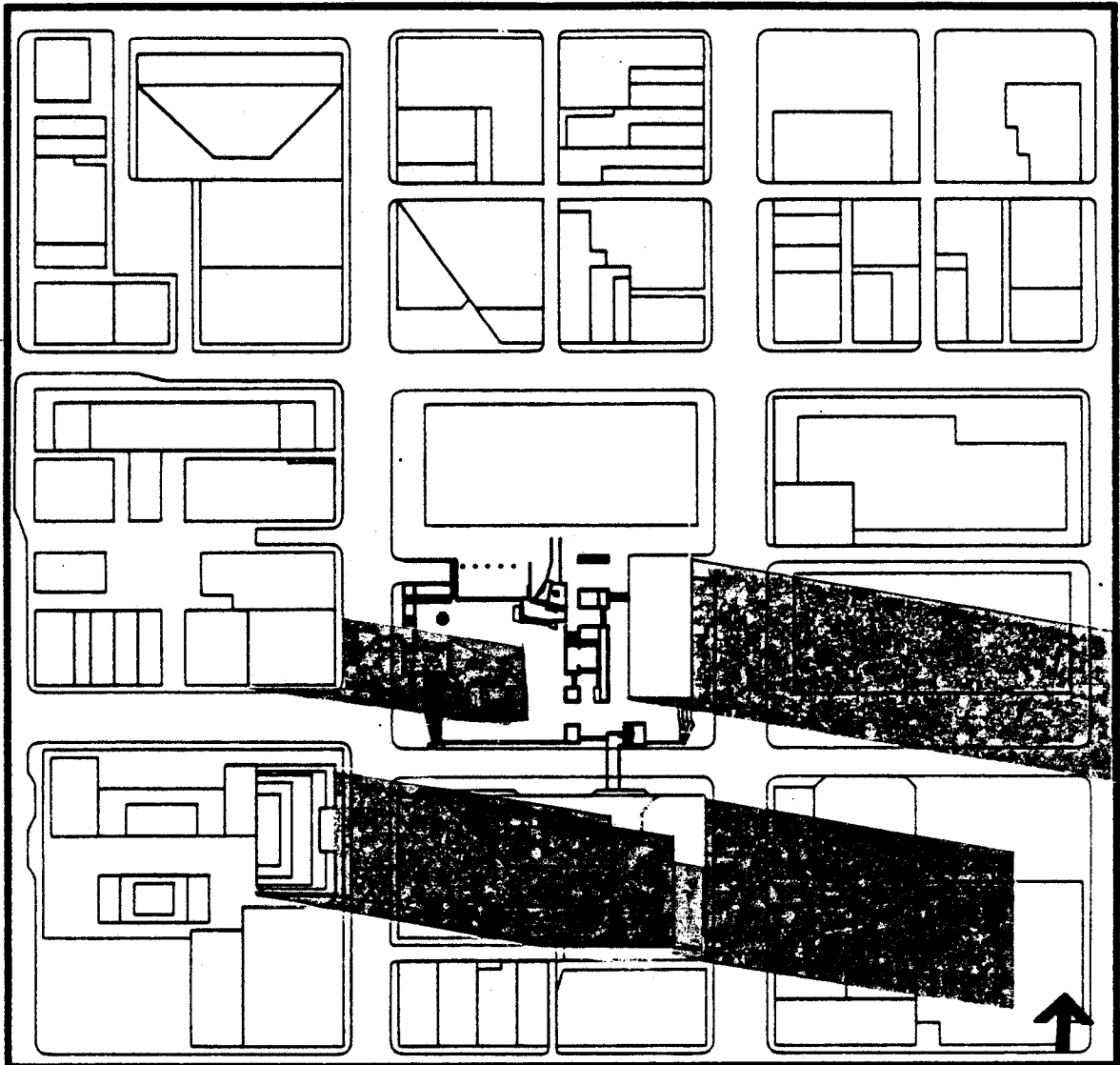
Shadow - Midsummer Solstice 3p.m.

Fountain Square - Cincinnati, Ohio  
Spring 1999

200' 100' 0' 200'

18

Linda D. Brett

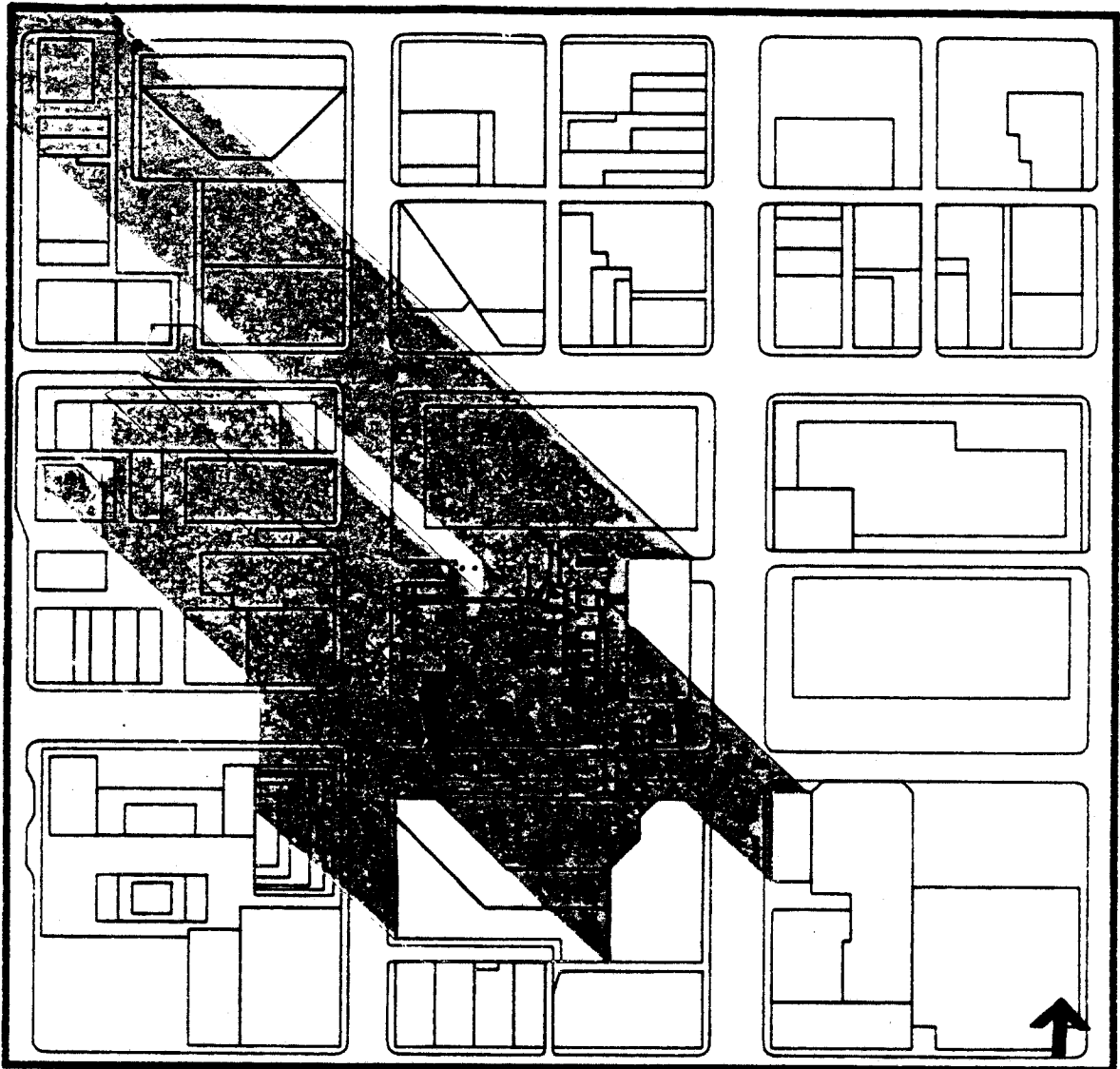


Shadow - Midsummer Solstice 5p.m. 200' 100' 0' 200'

Fountain Square - Cincinnati, Ohio

Linda D. Brett

19



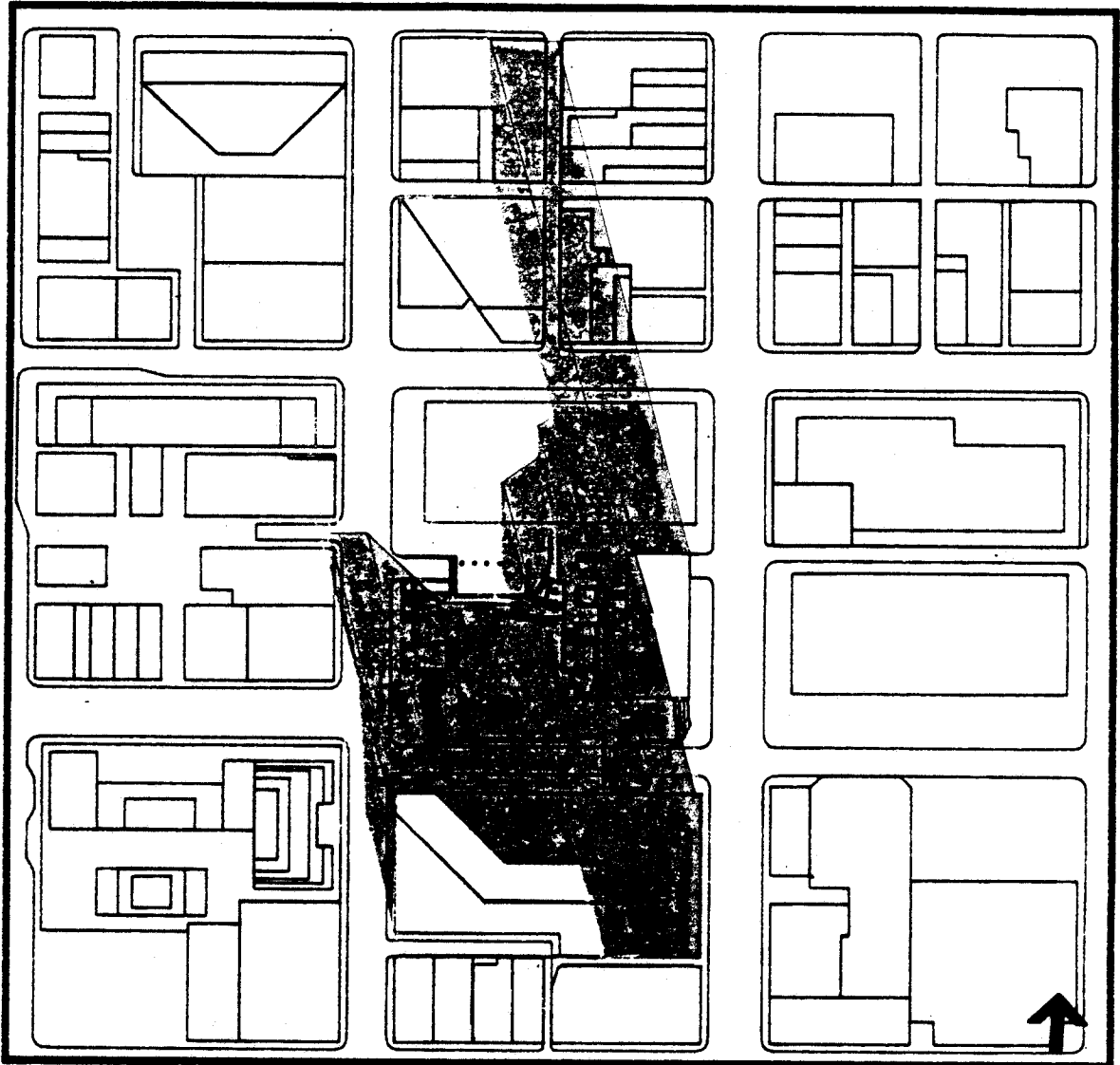
Shadow - Midwinter Solstice 9 a.m.

Fountain Square - Cincinnati, Ohio  
Spring 1989

200' 100' 0' 200'

Linda D. Brett

20



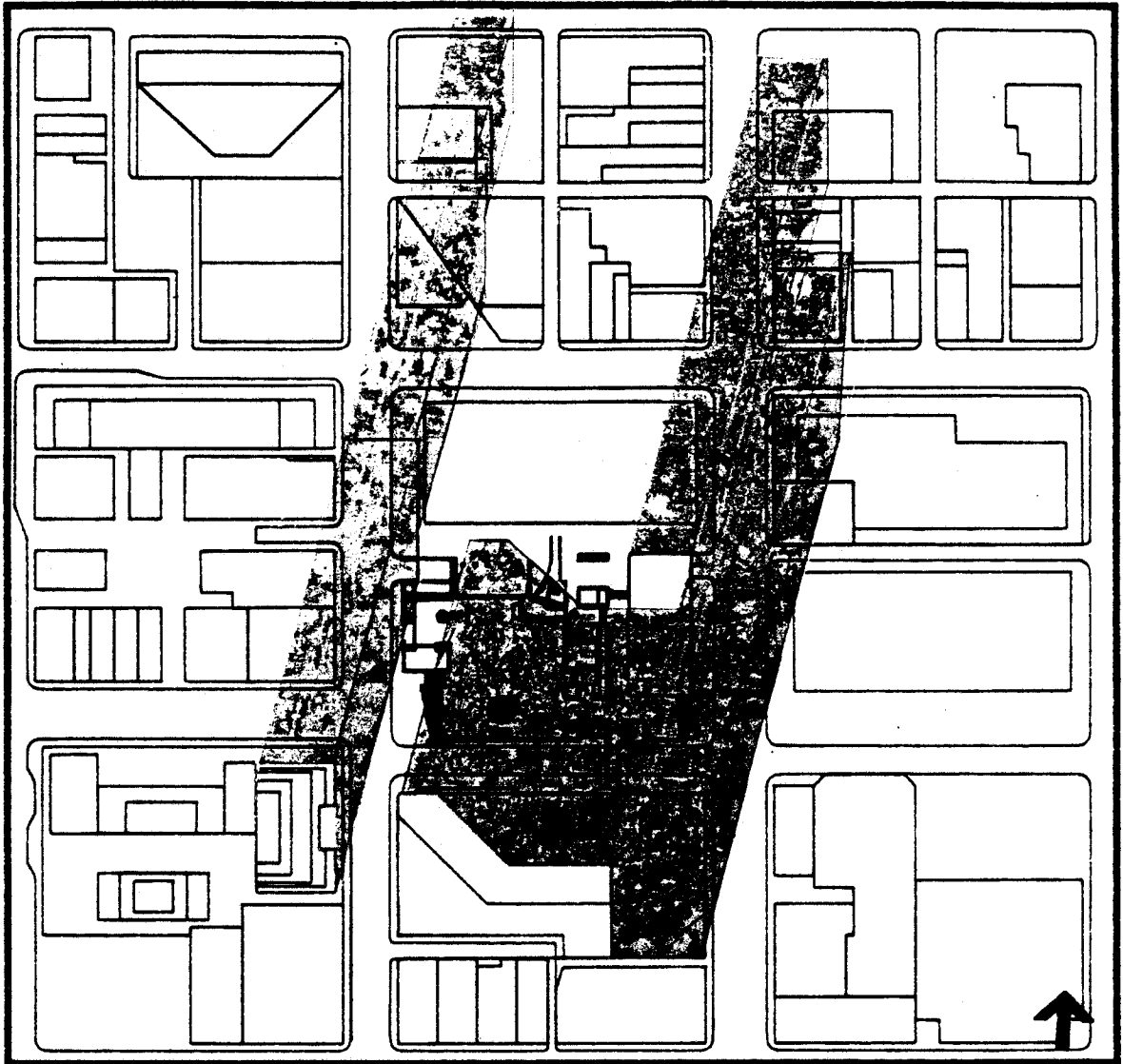
Shadow - Midwinter Solstice 11 a.m.

Fountain Square - Cincinnati, Ohio  
Spring 1999

200' 100' 0' 200'

Linda D. Street

21

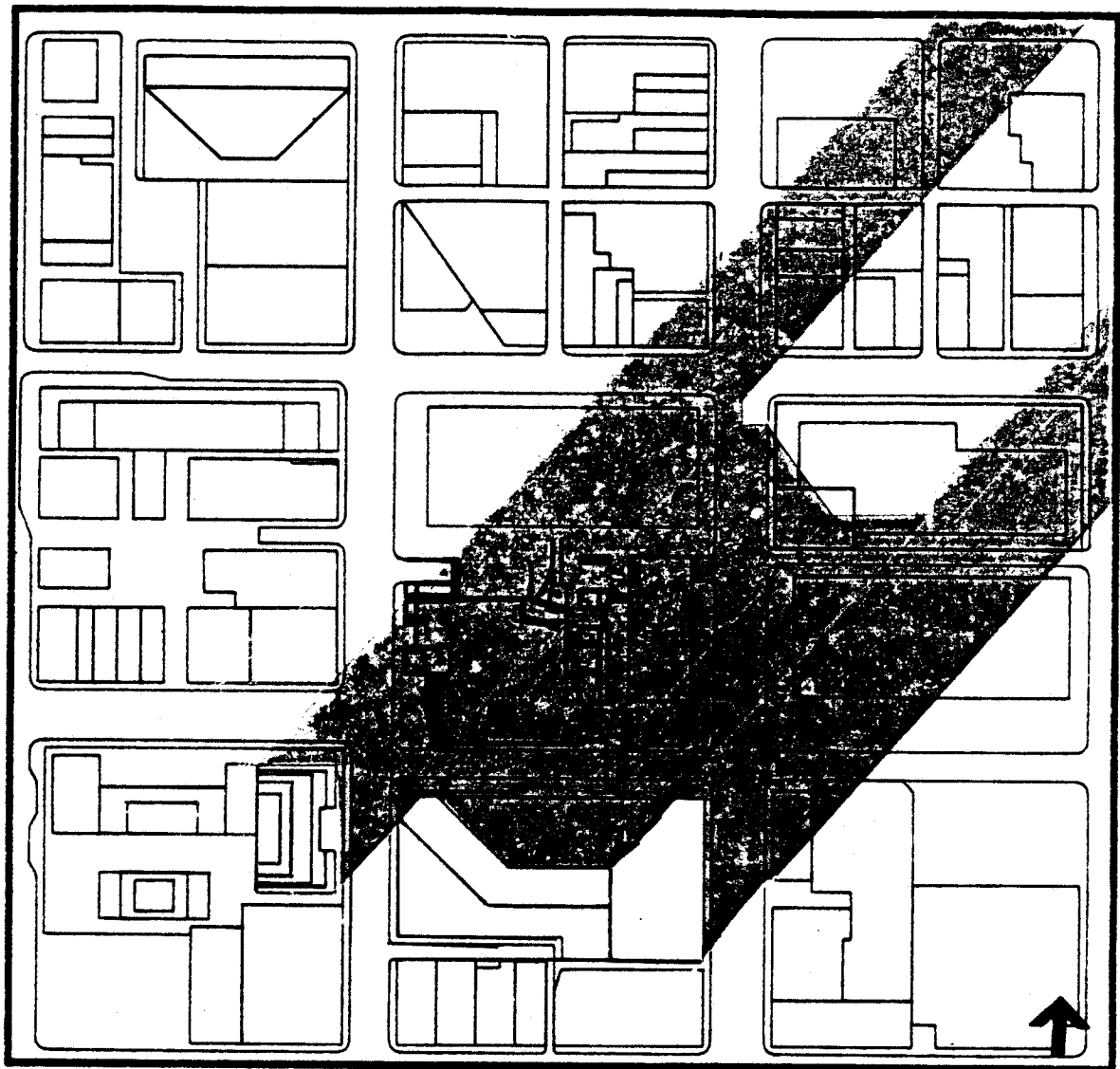


Shadow - Midwinter Solstice 1 p.m. 200' 100' 0' 200'

Fountain Square - Cincinnati, Ohio  
Spring 1988

Linda D. Brett

22

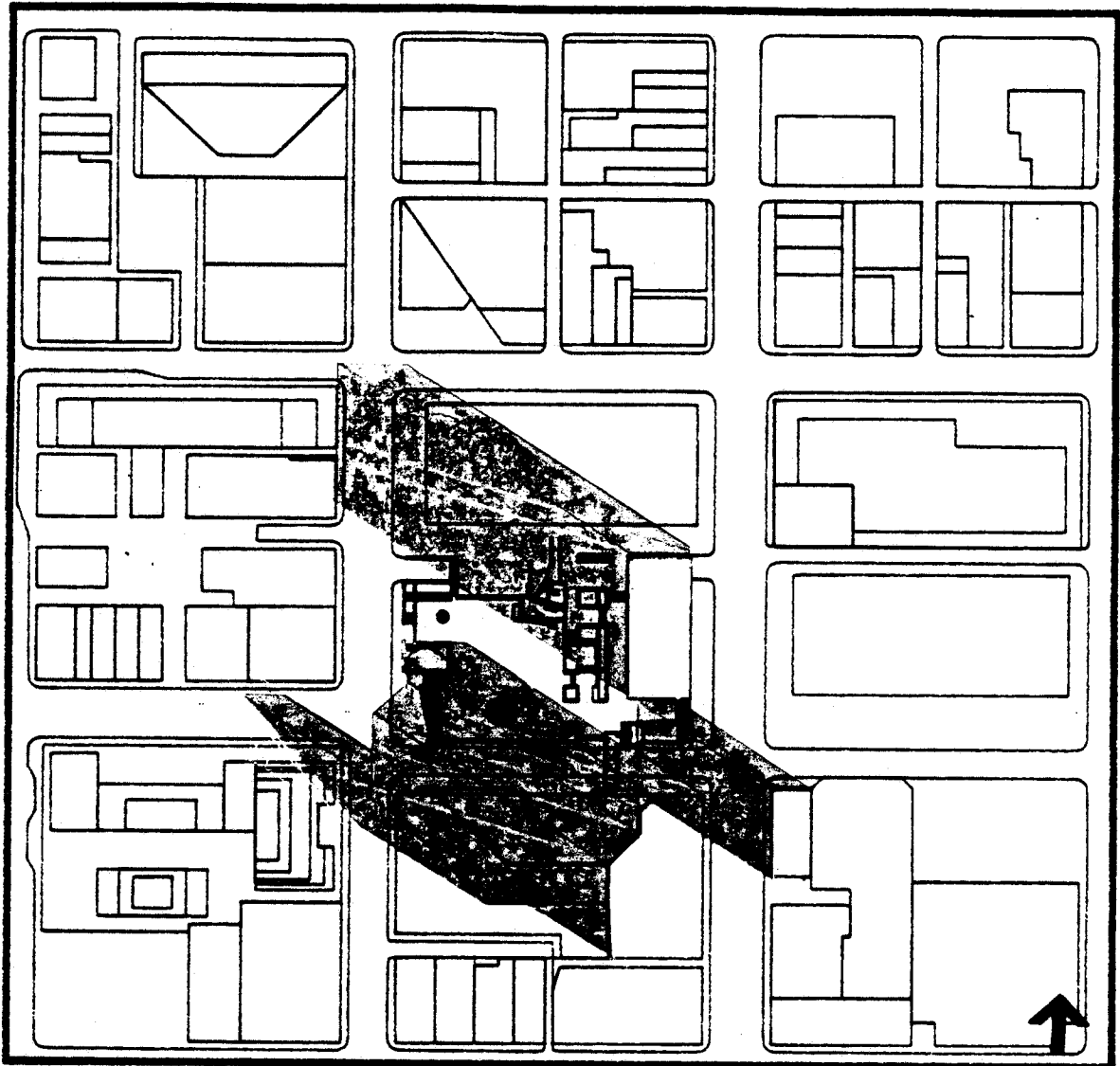


Shadow - Midwinter Solstice 3 p.m. 200' 100' 0' 200'

Fountain Square - Cincinnati, Ohio  
Spring 1988

Linda D. Street

23



Spring and Fall Equinox 9 a.m.

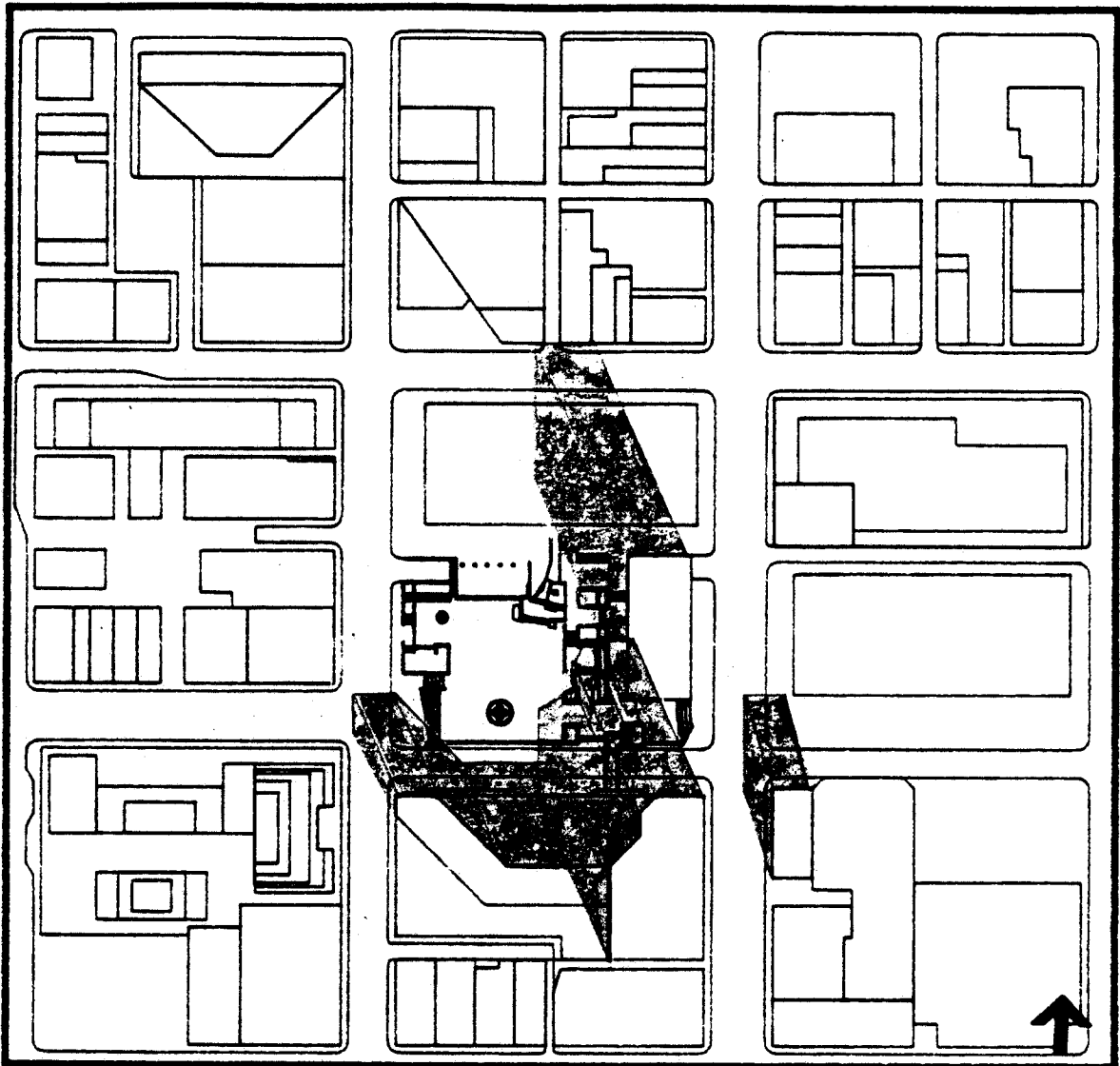
200' 100' 0' 200'

Fountain Square - Cincinnati, Ohio

Spring 1999

Linda D. Brett

24



Spring and Fall Equinox 11a.m.

Fountain Square - Cincinnati, Ohio

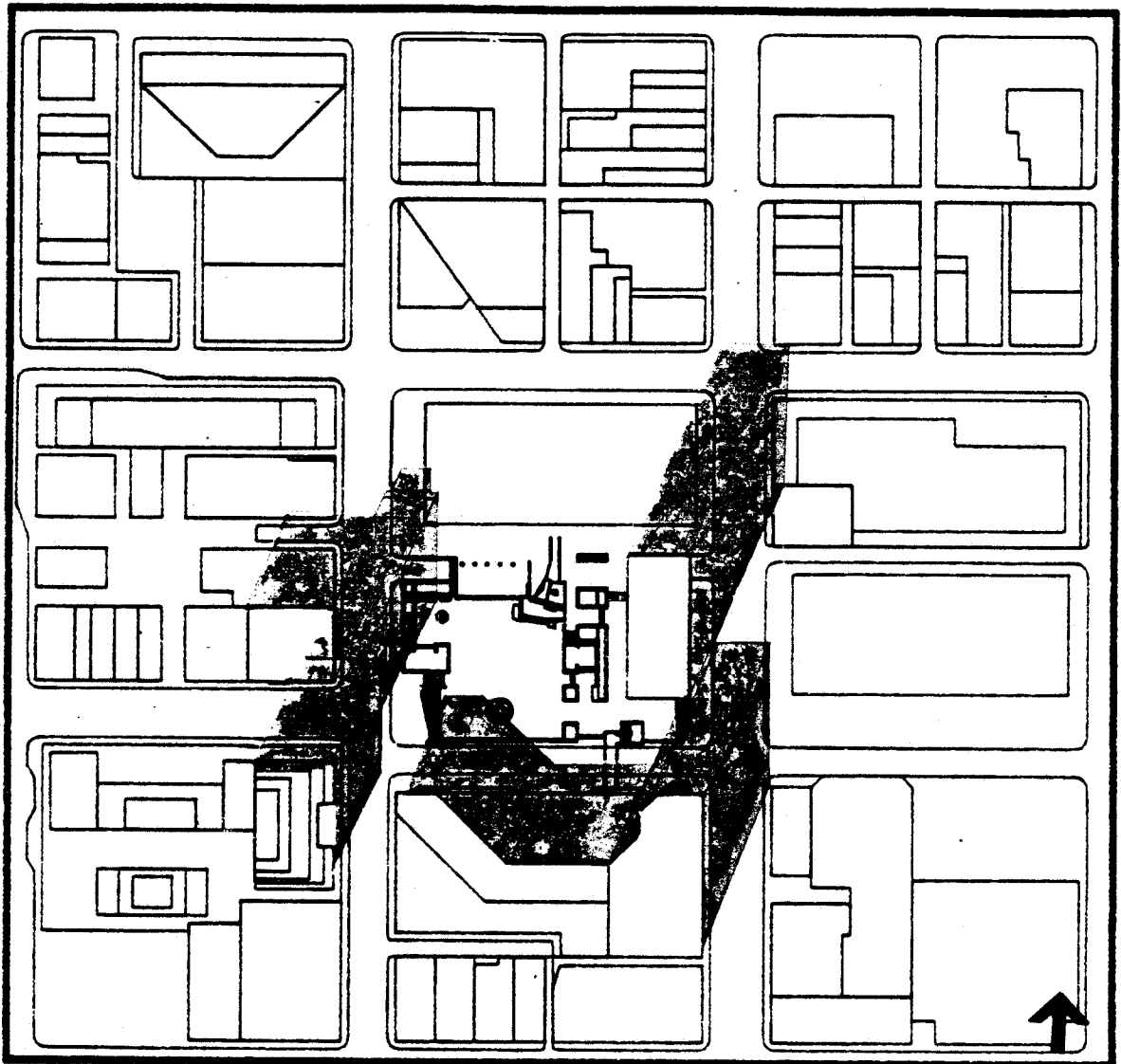
Spring 1988

200' 100' 0' 200'

Linda D. Brett

25





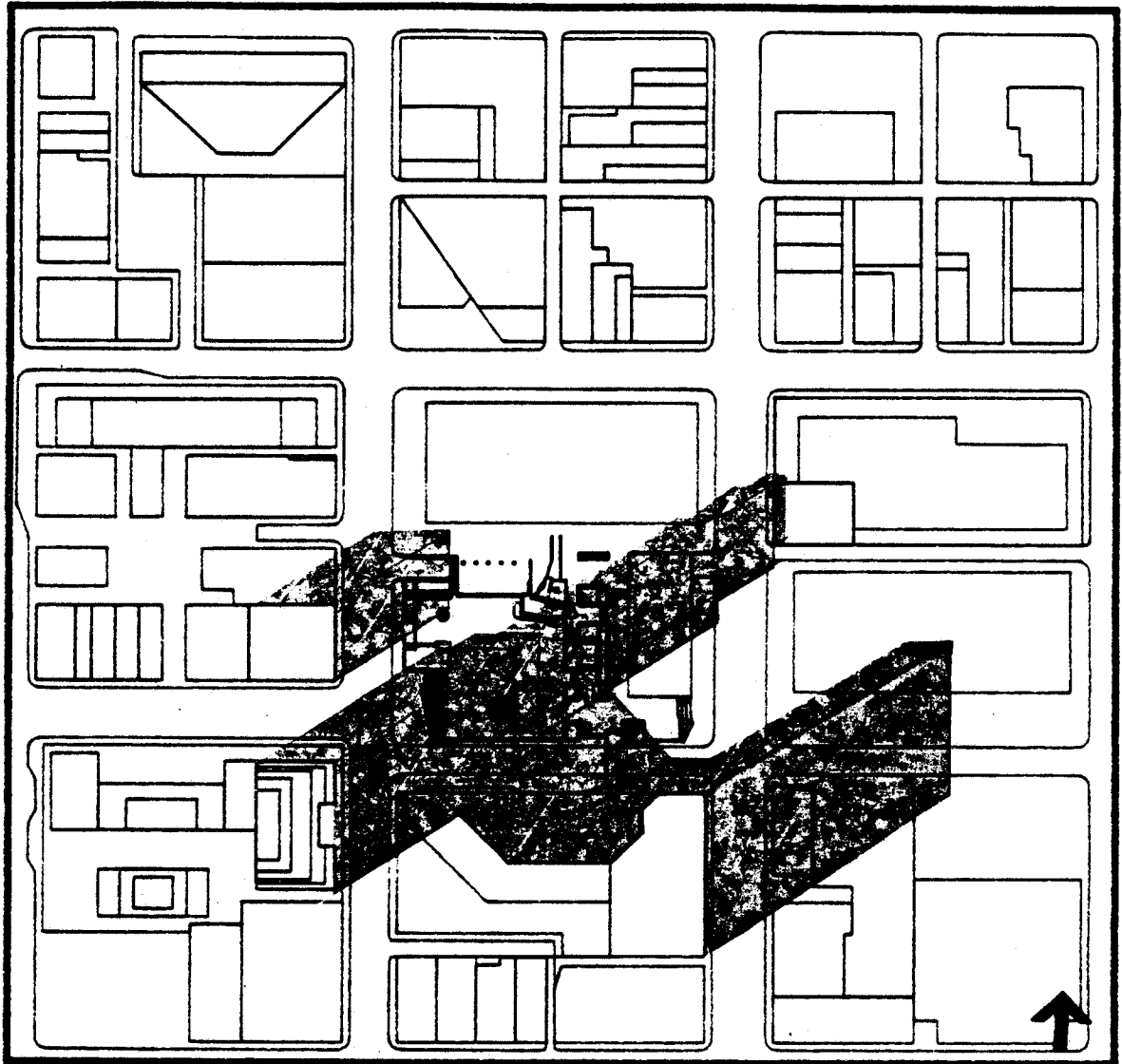
Spring and Fall Equinox 1p.m.

Fountain Square - Cincinnati, Ohio  
Spring 1988

200' 100' 0' 200'

26

Linda D. Brock



Spring and Fall Equinox 3p.m.

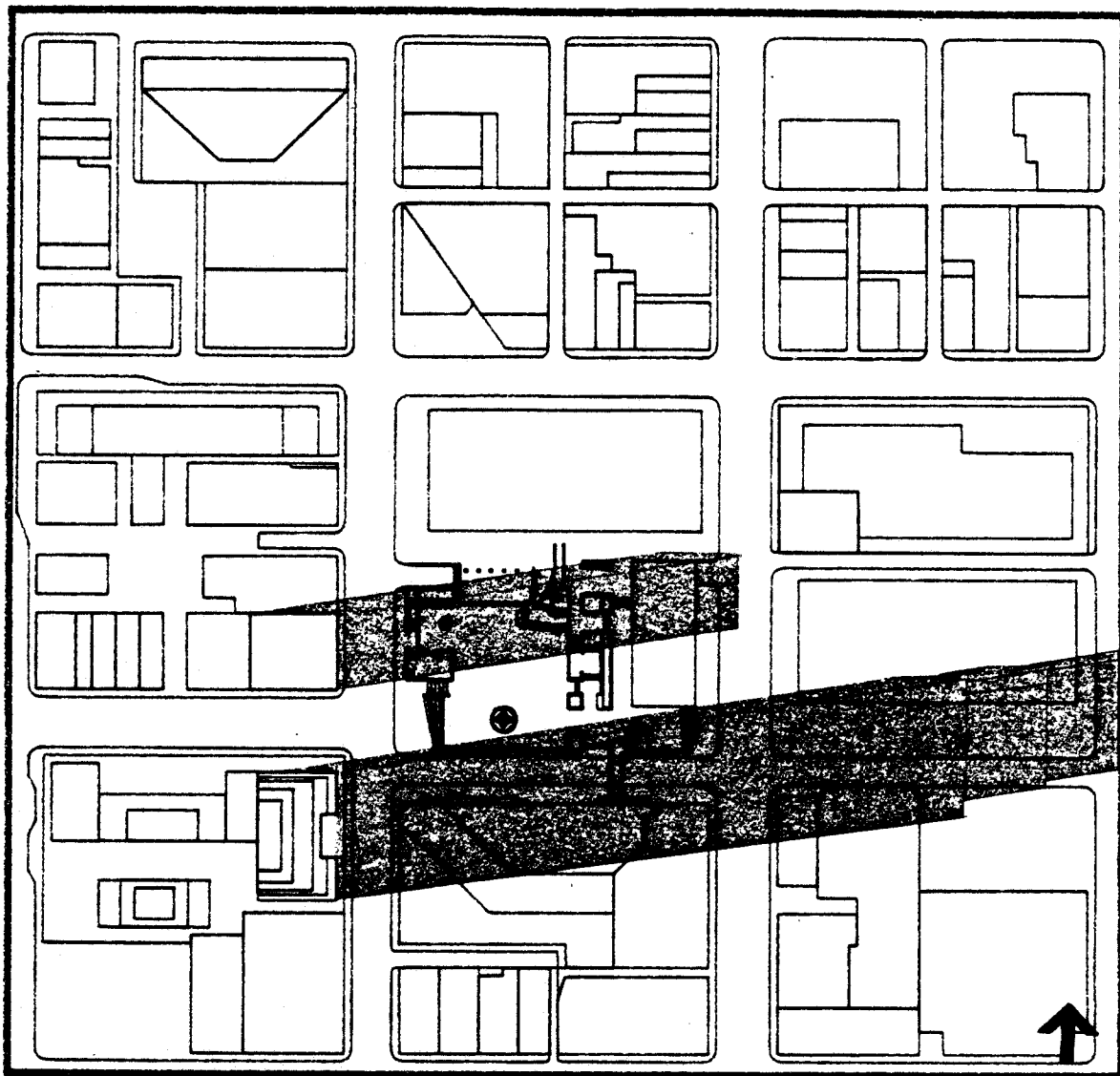
Fountain Square - Cincinnati, Ohio

Spring 1988

200' 100' 0' 200'

Linda D. Brock

27



Spring and Fall Equinox 5p.m.

200' 100' 0' 200'

Fountain Square - Cincinnati, Ohio  
Spring 1999

Linda D. Brett

28

## CHAPTER SEVEN

### Physical Configuration and Amenities

#### Design Considerations

The maximum size of a plaza should be approximately 200 x 500 feet in order to maximize spatial definition. Plazas larger than this have difficulty creating a three dimensional effect (Pushkarev 1975, 72). Gehl, however, states that he "social field of vision" falls within a maximum range of 325 feet, and thus it seems that this may also be a good indicator of optimal plaza size (Gehl 1980, 69). The "social field of vision" refers to the human's visual capacity. At 325 feet, other persons can be discerned as well as their sex, approximate age and what they are doing. Beyond this distance, visual capabilities diminish quickly. Larger spaces thus, tend to be perceived as cold and impersonal because people cannot clearly observe the people and activity in the space. That is, larger spaces are beyond the human scale. In addition, larger spaces do not work well because human perception cannot keep pace as stimuli are steadily increased. Rather perception will level off (Sitte 1965, 105). Small and compact spaces which are densely furnished with a variety of elements are more appealing. This conclusion is based on a study in which people were asked to judge several different plazas in Vancouver and also through observation and use patterns. The people of Vancouver liked these small, busy

spaces more and correspondingly, more use was observed in the small, busy spaces which offered choices for seating. People were also observed to be more active in small spaces, which were well defined and which offered amenities as opposed to open paved spaces (Joardar 1978, 490).

Lastly, the floor configuration should be flat and at the same level as the street. That is, it should be a continuation of the street to optimize visual and physical accessibility. Plazas which are sunken or elevated require a conscious decision to ascend or descend the steps. On the other hand, plazas at street level are often used as part of normal pedestrian movement.

Plaza amenities refer to public art, sculpture or the presence of water in pools or fountains in the public space. The amenity should, optimally, be of a landmark type quality so that it is easily identified with the space and so that it may even serve as a well known place for meeting.

Pools of water and fountains work very well in public spaces. People are drawn to water. The sound of the water is also perceived as relaxing and serves to mask other urban noises (Whyte 1980, 40). Furthermore, the presence of water provides a cool oasis on hot, summer days. If water is provided, Whyte claims that it should be accessible for people to touch and splash. To deny access is a contradiction which people do not appreciate.

"Triangulation" is an interesting social phenomenon which

refers to the presence of "some external stimulus which provides a linkage between people and prompts strangers to talk to other strangers as if they knew each other" (Whyte 1988, 154). The stimulus may be an object of art, a spectacular view, or a street musician, to list a few. These types of objects or activities give people a reason to converse with others and contribute to an exciting and lively urban environment. Since the urban plaza is often a center for social life, amenities which encourage "triangulation" are a positive contribution, maybe even a necessity.

#### Criteria

As the design considerations in this chapter are of a more subjective nature, quantitative criteria are not listed. However, an analysis of the existing conditions will be ensued regardless.

#### Existing Conditions and Analysis

The size of Fountain Square falls well within Jan Gehl's recommended 325 square feet. The entire space is approximately 285 feet by 260 feet. The central space is approximately 170 feet by 190 feet. Thus, the space is small enough to preclude coldness and formality. In addition, the space is comprised of a hierarchy of several spaces which divide the space into defined components. Thus, the user experiences a series of sub-spaces as opposed to one large

open space. This division provides niches and many edges which are perceived as being more comfortable by users.

The Tyler Davidson Fountain is the most obvious amenity on the space. The many children, which visit the plaza regularly on school field trips, run to the Fountain immediately upon arrival. Which, as Whyte would say, is a good sign. Tourist and visitors are also attracted to the fountain. I have not seen one yet who hasn't had his picture taken in front of it. Cincinnatians, as well, seem to be very proud of the Fountain. It is closely associated as a symbol of the city, and its central location well known. Often times, people have been observed using the Fountain as a meeting place.

Overall, the Fountain is an excellent attribute of the space. Not only is it of landmark quality, but it provides historical context to the space which, in essence, enhances the sense of place by tying the present to the past.

There are many scheduled events which take place at Fountain Square. These events range from musical concerts and sports rallies to high school bands and local radio DJs playing basketball. Whichever the case, the local office population gather during the lunch hour. People cluster around the state, and the clustering attracts even more people.

Unfortunately, unscheduled activity, such as street entertainment, does not occur regularly at Fountain Square.

A flutist was observed once, and the plaza users seemed to really enjoy him. The element of unexpected music as one enters the Square is a wonderful urban experience and, in my opinion, is superior to some of the "product promotion" events which typically occur at the Square.

Lastly, Fountain Square does have its own regular street characters. The two with which I am most familiar are the "preachers". They sing, dance, and of course, preach. They attempt to meet everyone in the Square by shaking hands. Usually, after the performance, they converse with those who will listen. The preachers are good conversation starters between the audience members - "can you believe this guy" or "I hope he doesn't come over here". But it is interesting, many plaza users know this guy, he is part of the territory. The familiarity, really, creates a sense of belonging.

This sense of belonging is Fountain Square's greatest attribute. The space is such an integral part of many people's lives. Not only the office population, but also the "regulars" and teenagers who depend on the space for socializing. Subjectively speaking, people seem to be very attached to the place, and are truly a part of it. Every time I have visited the space I have met people. Not so much during the peak hours when the space is crawling with people, but during non-peak hours. The space has a social life of its own, which provides an unmatched experience for the urban dweller.

## CHAPTER EIGHT

### Indoor Public Spaces - Fountain Square South

#### Design Considerations

As a general rule, public indoor spaces are usually not very successful. These spaces are usually not part of pedestrian flow patterns, and thus, can not take advantage of large numbers of passers by. Rather, indoor spaces "encapsulate" the pedestrian from the urban environment (Seymour 1969, 336). Conversely, the more successful the indoor space, the more street activity levels are diluted (Whyte 1980, 79). Furthermore, indoor spaces attempt to provide "through block circulation". However, many pedestrians prefer to remain outdoors unless something is going on inside which will attract the pedestrian (Whyte 1980, 76).

Indoor spaces differ from plazas in that they are not as "public". The look of the building, its entrance and the presence of guards have a definite filtering effect. More high income people usually use the space and less low income, especially if the space is part of a development which caters to the upper classes. If the indoor space is underwritten by incentive zoning it should not exclude anyone. This type of privatization is neither public nor urban (Whyte 1980, 76).

"The most successful interior spaces have a strong visual tie with the outside. The space is visible from the street

and the street is visible from indoors" (Whyte 1988, 211). Additionally, the connection between the two should be inviting. For example, it should provide an open and inviting entrance. Possibly, automatic opening doors which stay open in nice weather would make a good entrance (Whyte 1989, 80). Once again, when an urban space requires a decision to enter it, many people will not. The transition should be smooth and easy. In addition, the indoor space should meet most of the same criteria as outdoor spaces. That is, there should be lots of sittable space, a strong retail context with plenty of places to eat, and most of all, the space should be easily accessible. Furthermore, the provision of restrooms is a simple, but vital necessity for users in the space.

### Criteria

1. Seating - one linear foot for every 30 square feet of plaza space (see Chapter 4 for further detail of seating criteria).
2. Retailing - 100% of the frontage space should contain retail and service uses (see criteria under Surrounding Land Uses in Chapter 6 for more detail).
4. Restrooms should be available to users of the space.
5. The indoor space should be part of internal through block circulation.
6. Entrance and facade treatment should provide strong

connections between the street and the plaza space. They should be constructed of transparent glass with wide entrances which are optimally, open. The transition from street to space should be as simple and subtle as possible.

#### Existing Conditions and Analysis

Fountain Square South is the indoor counterpart to the outdoor plaza and is located south of the Square in the Westin Hotel. The City of Cincinnati spent 20.7 million dollars clearing the site in exchange for the glass enclosed public space. However, in reality, the city received 10,000 square feet of nothing.

In almost every case, Fountain Square South is deficient in meeting the stated criteria, and markedly so. First and foremost, the space has no seating. The space appears very empty. In fact, one would probably not even realize that it is considered a public space by observing it. It is, most likely, the management's strategy to keep out "undesirables" by not providing a place to sit. However, this results in keeping out everyone.

The surrounding frontage consists of a L. Strauss, men's clothing store, M. Hopple and Company, a stationary shop, and a relatively expensive cafe. Delmonico's, another more expensive restaurant is located on the second floor, which overlooks the space, along with the Westin lobby, the Star Bank and L. Strauss. Basically, these places cater to a more high class clientele.

There are several security guards which monitor the area. As mentioned earlier, I was questioned several times by different guards. While the guards were relatively friendly, the message is clear. The place is private and one is not welcome unless they are a paying customer.

On a more positive note, restrooms are available, although they are not in clear view. They are open from 6:00 a.m. until midnight. Many people at Fountain Square use these restrooms. The only prerequisite is knowledge of their existence.

The entrance to the indoor space does have a glass facade. There are two revolving doors at each end and several doors in the middle which are not to be used unless there is a fire. The rest of the facade often has large plants and even screens have been noted which block visual access. What is so contradictory is that the Westin borrows its sense of place from Fountain Square. It takes advantage of the great views to the Square, and I'm sure its proximity is used as a sales pitch to potential customers. However, the Westin returns nothing.

## CHAPTER NINE

### Synthesis and Evaluation

In this chapter, all of the criteria are overlaid in order to identify zones ranging from healthy to critical conditions. In putting the "pieces of the puzzle" together, it is clear why some spaces within the Square work better than others.

First, the space was divided into zones A through F (see map 29). These divisions were based on natural boundaries such as ledges and walls. In addition, the divisions are based upon areas of equal calibre. That is, zones are distinguishable by qualities, such as seating amount, views, use and pedestrian flows.

Secondly, an evaluation matrix (table 3) was devised which will rate each zone in terms of its sittable space, the amount of pedestrian flow which moves through the zone, its visual and physical accessibility from the adjacent public sidewalk, the adjacent uses and edges, and lastly, microclimate. This evaluation is based upon the analysis undertaken in the previous chapters (summarized in map 30).

Each zone receives between 0 and 5 points for each given criteria. A score of five points is representative of the minimum criteria being far exceeded. A score of three or four typifies that the minimum criteria has been met. And lastly, a score of 2 or less represents a deficiency in the fulfillment of the specified criteria.

Zone A - 25,410 square feet

Zone A receives 2 points for the sittable space criteria because it should have at least 635.25 linear feet of seating. Zone A only has 467.25 feet. Thus, the space does not meet the designated amount of sittable space. Zone A, highest in the spatial hierarchy, should have much more seating available because it carries the most activity and is the primary place for seating.

With regards to pedestrian flows, Zone A receives 5 points. Zone A services the majority of movement from every entrance (please refer to maps 28 and 29 for demarcation of the zone and also for visual clarification of each criteria discussed). Thus, it has very strong pedestrian flows. In addition, Zone A is part of the overall circulation pattern in the general area. That is, it accommodates a natural flow of people through the central business district.

Zone A is adjacent to two strong entrances, and thus receives a high rating in terms of physical access. Also, as mentioned previously, Zone A is part of the sidewalk system on the north side of Fifth Street. Thus, this space is highly accessible, and probably the most accessible of all the zones.

From the south, Zone A has strong visual access. The two wide entrances, coupled with the vast opening on the south, provide good views of the space from the street. However, views of this space from the east, west, and north are restricted.

As mentioned earlier, the entire Square suffers from a deficiency in strong adjacent land uses except for the uses found on Sixth Street. Zone A is adjacent to the retail uses in the Westin, however as mentioned earlier, there are no street entrances. Also, as mentioned earlier, the vacancy of Fountain Square West on Vine does not bring activity to the area either. Zone A receives a rating of 2 in this area. Even though the land uses are deficient, Zone A receives strong pedestrian flows moving from Fifth to Sixth Street.

Zone B - 5,580 square feet

Zone B far exceeds the minimum criteria for seating, more than doubling the specified amount. In addition, Zone B offers the best group seating in the Square with the tables and chairs (even though they are not moveable) coupled with the ledge to the south. This area could easily add another 55 linear feet to its existing sittable space if there were benches along the western ledge parallel to Vine Street.

Zone B is not in the direct path of strong pedestrian flows. The enclosed southern section is separated from the main flow by the ledges which surround it. Thus, even when people enter this enclosed space to sit on the ledge, they usually turn themselves outward to Zone A and Fifth Street in order to face the activity. Furthermore, even though this enclosed space is directly accessible to Vine Street, the entrance is rarely used. This is not perceived as a problem

because Zone B works well as a more private space aside from the Central Space, and thus, it receives a average rating of 3. It is adjacent to strong pedestrian flows without being in the middle of them. However, because Zone A does not provide enough sittable space, people will sit in Zone B and face the central space as mentioned above.

Zone B is primarily accessed through the central space, or Zone A. The entrance which fronts Vine Street has seven Steps with a tread of 12 inches and riser of 5 inches. Thus, this immediately hinders the numbers which will use this entrance and therefore, it receives a rating of 2. Furthermore, visual access from Vine Street is very poor. The raised level of this zone is much more dramatic than Zone A and when coupled with the walls which are 6 to 8 feet high (from curb level on Vine Street) one cannot see into the Square. However, from the corner of Fifth and Vine, visual accessibility is somewhat acceptable.

As mentioned in the evaluation of land uses in Zone A, the vacancy of Fountain Square West on Vine Street minimizes the rating in Zone B. Once again, a rating of 2 is given for similar reasons as in Zone A.

#### Zone C - 7,720 square feet

Zone C is also deficient in sittable space. The criteria require a minimum of 195.5 linear feet, the space has 123 linear feet. Thus, it gets a rating of 2. This space has

extremely strong pedestrian flows in a more compact space than Zone A. Thus, any more seating would most likely, obstruct the movement pathway. There is some dead space directly to the rear of the stage which is covered by the skywalk bridge which may, in part, account for the sittable space shortage.

The major access point to this space is through the arcade entrance which links the Square to Sixth Street. Thus, while physical and visual accessibility are quite limited, the adjacent small scale retail and service uses are quite strong. Thus, even though access is limited, the strong retail and service uses act as a pull in bringing people to this area of the Square.

Zone D - 10,574 square feet

Zone D is the most critical zone in the Square. It is severely deficient in meeting each of the criteria. Seating is quite limited. This zone should provide at least 264 linear feet of seating, however, only 63 feet of sittable space exists.

Additionally, pedestrian movement is extremely limited through this zone. This may be due in part to the poor entry area which was discussed earlier. Also, Zone D is adjacent to 2 vacant storefronts, and the DuBois Tower which does not provide any service or retail uses at ground level. This may also be indicative of the low pedestrian flows through the zone.

Lastly, Zone D suffers from continual shade due to DuBois Tower and the overhead skywalk. This factor makes the zone appear dark and unattractive.

Zone E - 10,000 square feet

Zone F, although technically referred to as an indoor public space, does not meet any of the criteria which are necessary for users to congregate within it. First, and foremost, seating is not available in any form. Without seating, simply put, there are no opportunities for staying. Thus, the rest of the criteria are really not applicable unless viewed in terms of the potential the space may have for successful if seating were provided. However, the space does fall short in meeting most other criteria. Through block circulation is not of a functional nature through the Westin. Furthermore, visual, as well as physical access is poor. The only redeeming element of the space is that it is surrounded, for the most part, by retail and service uses.

When one looks at the average rating for each criteria, which does not include Zone F in order to avoid skewing the ratings for Fountain Square, one can see that sittable space, adjacent land uses and visual access are the three areas in the Square could use significant improvement. In addition, when viewing the total scores received for each zone, it is clear that some zones work much better than others.

Interestingly, when one criteria is deficient, it usually impacts several other criteria. That is, these criteria are extremely inter-related and work closely in regards to each other. Therefore, it is hoped that by improving specific elements within the Square, it will have a positive effect on other elements within the Square.

Lastly, it appears that this evaluation, in some cases, paints a grim picture of Fountain Square. However, this is not the case by any means. Rather, one can easily see that the space is a great success. Hundreds of people enjoy the Square on a daily basis, this is quite obvious. It is my opinion that Fountain Square works well despite its shortcomings because it is a destination in and of itself, and not merely a space in which people are compelled to linger simply because they have passed by it. Fountain Square is closely identified with Cincinnati and thus, works as an attraction on its own.

A logical continuation of this study would be to analyze and evaluate the larger context of the central business district in terms of its ability to accommodate pedestrians. Based on the findings of this study, it is quite likely that Cincinnati would fall short. This is not surprising considering the vulnerability of mid-size cities across the United States.

Unfortunately, this type of study is beyond the scope of this research. However, these criteria can easily be applied

to any public space, or street where pedestrians are found or desired. It may simply be a matter of a city determining what kind of place it wants to be, formulating goals accordingly, and taking the time to really see what exists.

## CHAPTER TEN

### Recommendations

The recommendations which follow are based on the previous evaluation. It is the goal of this research to improve the quality of Fountain Square for its users. Furthermore, these recommendations are intended to be realistic and practical measures which help the Square meet the designated criteria.

#### 1. Sittable Space

An increase in sittable space is necessary for the entire Square as shown by the previous computations and by the numbers of people consistently found standing in the Square during peak hours. Ideally, the addition in seating should take the form which accommodates group seating. Thus, it is recommended that the seasonal planters which are presently used in the space be replaced by those which are sittable. For example, a replacement with square planters with a ledge between 12 and 16 inches in depth, when grouped together in clusters of 2 or 3, could potentially provide group seating opportunities for a significant number of people. These planters should strategically be located in Zone A, B, D and E.

By observing the pedestrian flows through the Square, any location which does not obstruct the existing flow is

considered satisfactory. Thus, for example, areas near the stage and fountain in Zone A are desirable. If the planters are 6 feet by 6 feet, and only 12 are provided (there are approximately 10 planters in the space currently), between 216 and 288 linear feet of seating could be added to the central space alone (depending on how the planters are placed relative to each other).

In Zone B, which does currently exceed the seating amount criteria, benches could be added to the ledge which runs parallel to Vine Street. This is the only ledge which exceeds the height limitations of sittable space. The placement of benches along this ledge could potentially add 55 linear feet of sittable space.

Once again, in Zone D and E, the planters previously mentioned could be placed in order to provide more seating opportunities. Since both zones do not handle strong pedestrian flows, placement of these planters are not as restricted as in Zone A.

Lastly, moveable chairs should be available on a daily basis at the Square between, at least, 11:00 a.m. and 3:00 p.m. In this manner, group seating opportunities would be furthered. In addition, these moveable chairs could be used to compliment the available linear seating provided by the ledges. The availability of these chairs should occur when any events are held on the Square. In this manner, observers of the event may be able to sit comfortably rather than stand

as they do presently.

Lastly, basic seating provisions should be provided in Zone F. It is understood that past attempts to require seating have been evaded by the Westin. Thus, the city should specify all design elements to be provided in any future incentives given to developers.

## 2. Adjacent Uses

Fountain Square does not have a strong relationship with its adjacent context as mentioned previously. Thus, this is another area of necessary intervention. While retail continuity is mandated in current zoning along most areas around the Square, further specification of retail types is necessary (i.e. no banks, airline offices, etc.) Furthermore, the ground floor of DuBois Tower should also be required to provide retail and service uses. In addition to specification of retail types, entry ways to the street should be required and enforced. The development of Fountain Square West could have a strong, positive impact on the Square, and the street life as well, if it met these ground floor use recommendations.

Lastly, the two vacancies within the Fifth Third Center which front the Square should provide informal, carry out food provisions. There are not an overabundance of food provisions directly adjacent to the Square besides the United Dairy Farmers and the food vendors along Fifth Street. Ideally,

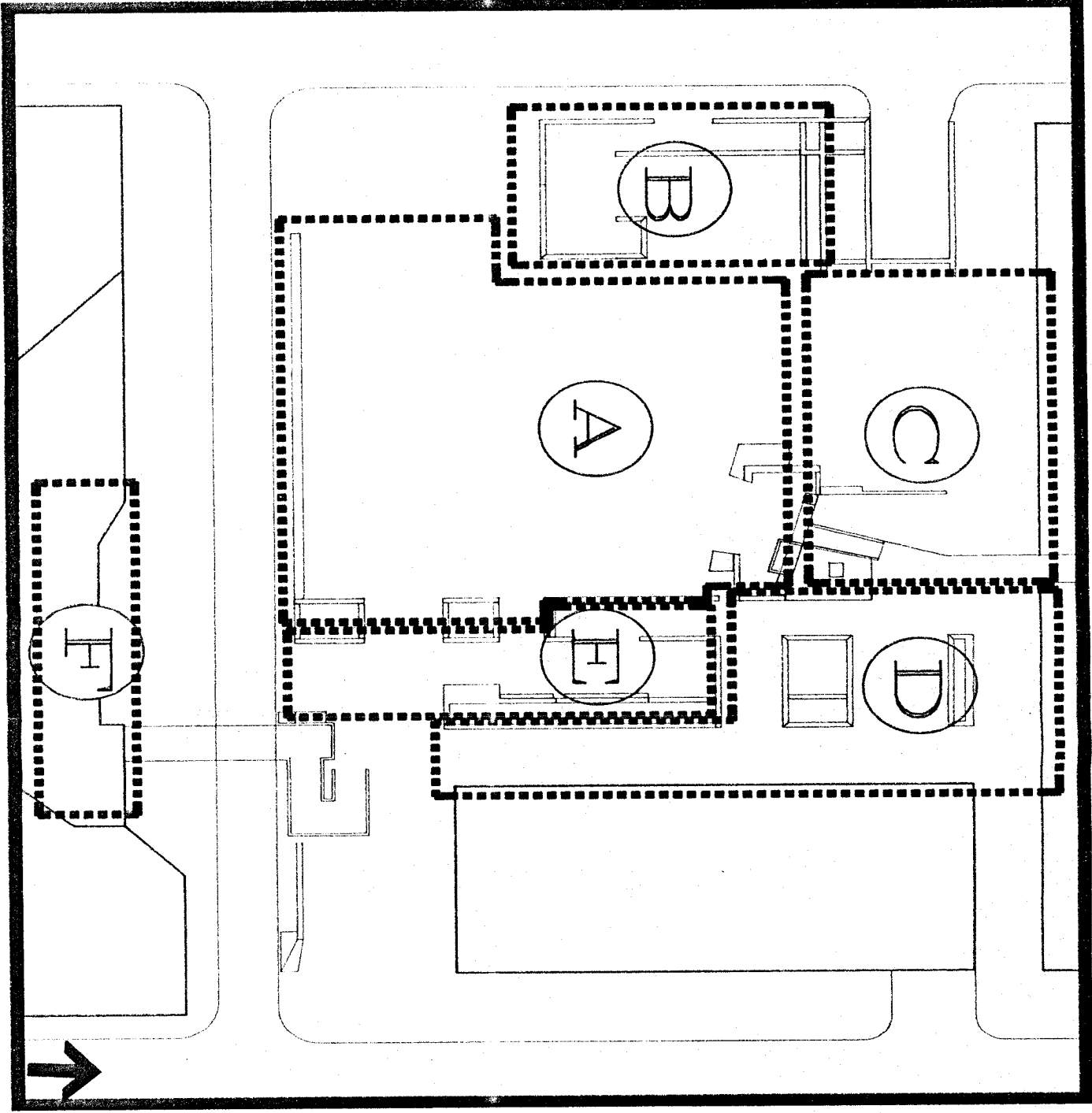
restaurant, or carry outs should be able to set up tables and chairs outside of their structures. This would enliven the activity of the Square, and provide nearby facilities. This would be especially beneficial in Zone D (where the current vacancies exist). In this manner, people could be pulled into this zone in order to activate this now critical space. This is necessary to offset the poor visual and physical accessibility from the adjacent public sidewalk and low pedestrian movements through the area. In other words, since modifications to the entry zone in order to maximize visual and physical accessibility are quite unrealistic, attempts should be made to attract people to this zone. Such is the case with Zone C which shares many of the same characteristics as Zone D. However, Zone C thrives due to its proximity to strong retail and service uses. Lively edges translate into a lively space. In this manner, if the Square did have lively edges, it may potentially experience more activity during non-peak hours and weekends.

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Evaluation Subunits  
 Fountain Square  
 Cincinnati, Ohio



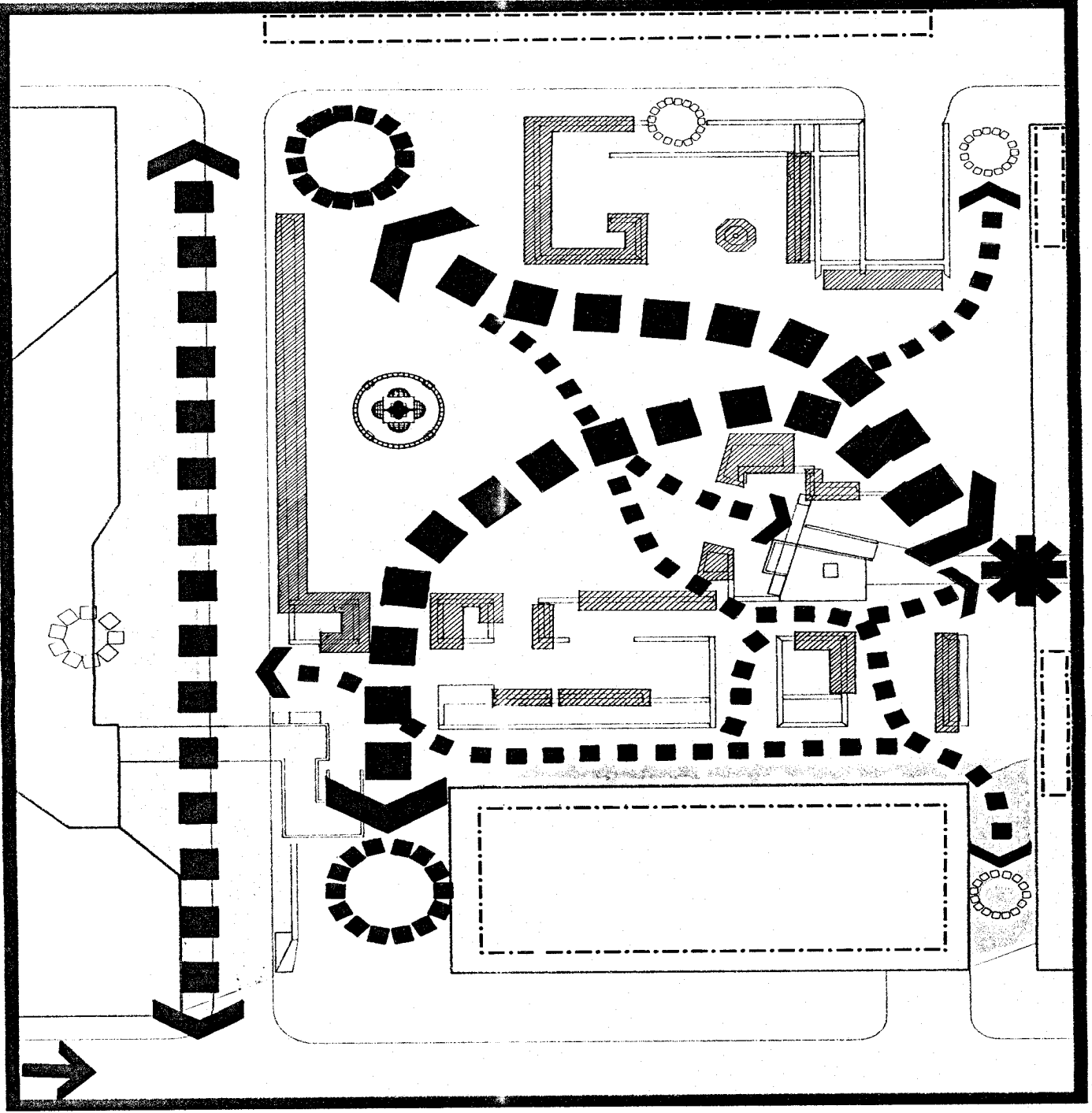
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 Linda D. Broth

# Evaluation Matrix

Table 3

5-Exceeds Criteria	2-Minimal Deficiency
4 Meets Criteria Well	1-Deficient
3 Meets Criteria	0 Nonexistent

Zone	Sittable Space	Pedestrian Flows	Physical Access	Visual Access	Adjacent Uses/Edges	Microclimate	Total
<b>A</b>	2	5	5	5	2	4	23
<b>B</b>	5	3	2	2	2	3	17
<b>C</b>	2	5	4	2	3	3	19
<b>D</b>	1	1	1	1	1	1	6
<b>E</b>	2	2	2	2	2	3	13
<b>F</b>	0	1	1	1	3	N/A	6
<b>Average A-E</b>	2.4	3.2	2.8	2.4	2	2.8	15.6



# Synthesis

## Fountain Square Cincinnati, Ohio

### Legend

- PRIMARY FLOW
- SECONDARY FLOW
- SITTABLE SPACE
- INCOMPATIBLE USE
- ENTRY ZONE
- POOP ACCESSIBILITY
- EXISTING DETAIL
- CONTINUAL SHADOW



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