

CHAPTER III: LITERATURE REVIEW

The Literature Review addresses prior research related to public spaces and provides a theoretical base for this investigation. The literature review covers the following topics: physical and functional issues, sociability, people's preferences and needs, security and microclimatic comfort of public spaces. These are factors addressed in this research, which influences the vitality of public spaces. It is important to mention that the following theories are organized in a manner that topics are discussed separated from each other, (so it can be better understood by the reader). However all are linked together and must therefore be seen as interrelated.

Before merging into each of the theories addressed in this research it is important to first define some of the characteristics of public spaces and plazas. As the explanation develops it will be seen that many qualities that define these spaces will be extended subsequently through the different topics of this chapter.

Public spaces (PPS, 2000) consist of outdoors environments, which generally give relief from urban hectic life. These places are sidewalks, streets, parks, city halls, squares, plazas, and other forms of gathering spaces. They are generally vegetated, and places where civic, cultural and social activities occur. These spaces are livable settings that play important role for community identity. Public spaces are a stage for public life, which promotes sense of community, sense of place, people connection, and therefore create a sense of belonging. Public spaces provide the opportunity for people to gather and enjoy experiences with others. Public spaces benefit cities economically, contributing significantly to the land use values of a city. Often, public spaces provide retreat from the automobile orientated life and locate in natural settings. The presence of green spaces in the city increases people's appreciation and awareness of the natural environments and provide habitat for the urban fauna.

Public spaces are a mirror of social values, customs and culture and are a reflection of the interaction between physical, social, political and economic realities. They symbolize the larger society or culture in which they exist. Public spaces acquire meaning for people through the different functions, activities and roles in people's life. In these spaces people are able to exchange information, communicate local news and also provide a context for political behavior. Public spaces encourage social exchange, the formation and continuation of social groups and enable the transmission and exchange of important public messages. When public spaces and public life are missing in a community, residents become isolated from each other and are less likely to offer mutual help and support (Carr and Francis 1992).

Specifically, a plaza is more than an open space in the city. It is a place for people to congregate, enjoy and experience. The quality of a plaza is determined by the livability and social interaction that takes place in it, the levels of physical and psychological comfort that offers, experiences provided to people and the opportunity of engaging in different activities. According to J. B. Jackson (1985), a plaza is an urban open space that attracts people together for passive enjoyment. According to Kevin Lynch plazas are generally activity condensers in cities that typically are well structured and defined by high-density buildings and by streets. Streets are important in structuring plazas because they provide a setting for activities and amenities that attract people to city sectors and invite social contact. "Plaza" is defined as a hard surfaced outdoor public space; it is a place for retreat and people congregation, and not a place to pass through or for the car. A plaza is a place for strolling, sitting; eating and watching the world go by. (Cooper Marcus, 1999).

Because the objective of this research is to address public spaces and specifically plazas in Maracaibo, knowing these definitions is a starting point that allows the reader to understand the following theories related to public space. Theoretical considerations related to the design of livable and enjoyable urban plaza will be considered in this study and specifically in relationship to the successful qualities of public spaces. Theories that make reference to public spaces will be addressed according to the considerations of physical and functional qualities of public spaces; social life of plazas, human needs in public space and the notion of human climatic comfort and security in those settings. Each of these areas represents the theoretic reference of this study, which will be discussed in more detail as follows.

9 Physical and Functional Qualities of Public Spaces

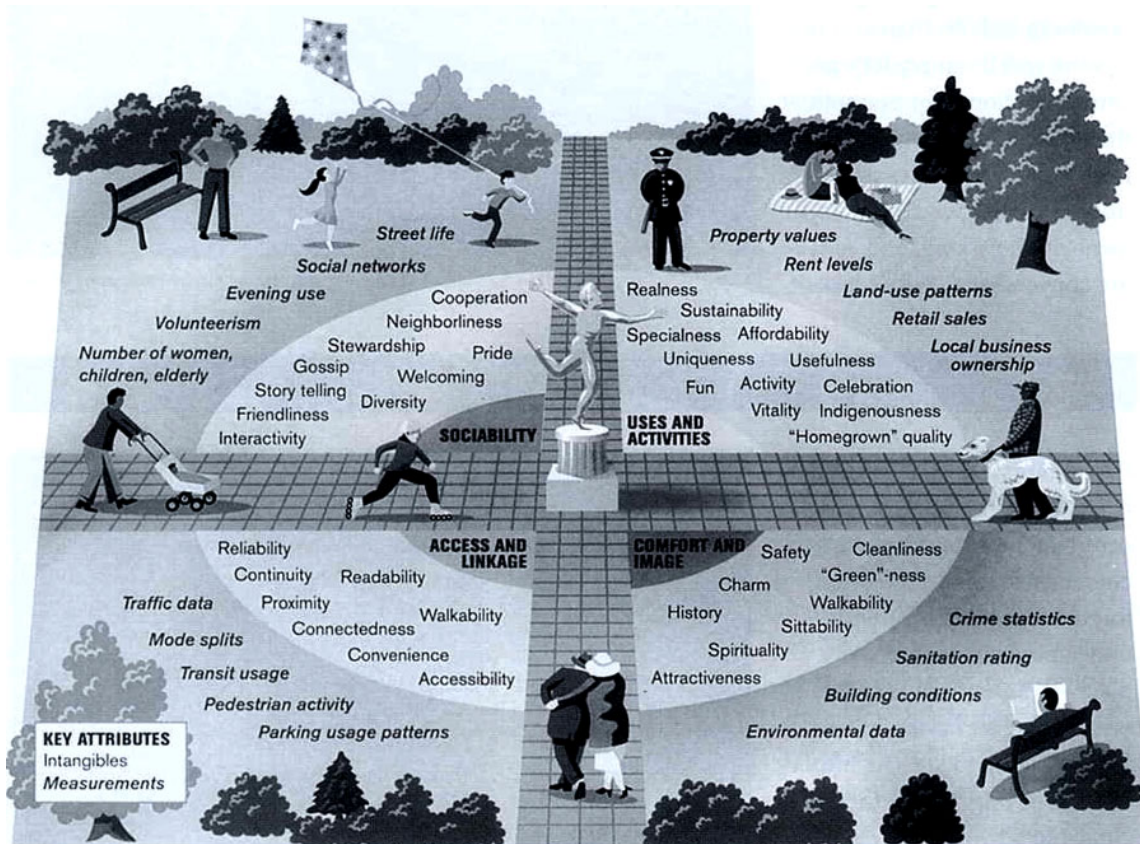
Public places generally have physical and functional conditions, which favorably or unfavorably influence social interaction, people comfort and security, which attract people to the settings. The physical and functional qualities of a public space are related to the physical amenities, the activities, the accessibility conditions, the location characteristics of the public space and the surrounding land-uses that support or not the activities developed in plazas and that will influence in their capacity to promote social interaction, livability and comfort. Knowing what other authors have found related to physical and functional variables in public spaces can provide an understanding of what should be surveyed in Maracaibo's plazas in relationship to this matter and orientate the methodology approach of this study. The following are some findings related to factors that Whyte, PPS and Gehl have found that influence the vitality and public life of plazas, which can be helpful for developing a theoretical base and for guiding the questions that should be asked to plaza users.

Any well-designed public spaces must be qualitatively functional. It must provide a set of physical conditions, which can encourage participation, people use and public life. Studies have shown that public spaces that are dynamic and highly visited by people are settings where people are able to engage passively with the environment by looking at others, offer many sitting spaces, are accessible for people, contain public art and natural features such as water fountains, waterfalls, for example. It has been shown that food; retail activities and programmed events attract people to urban spaces, but also visibility increases the sense of security of public spaces and therefore is highly preferred by people (Whyte, 1980). These and many other functional and physical attributes give character to public spaces and influence the comfort and enjoyment of people. These qualities also influence people's behavior, experience and well being in those public spaces. Particularly William Whyte found that by observing and interviewing people, gathering information from them it is possible to understand how the attributes mentioned previously influenced the social life and success of a place, and this is why also knowing the user is very important.

The development of positive public spaces requires active community participation; a clear redesign program based on people's needs; and an appropriate management programs to coordinate attractive events and activities in the public space and active public uses in the surrounding area. The main goal is people's satisfaction in public spaces (Pierce, 1978).

According to PPS, places that are great for people have four key qualities: (1) sociability, (2) uses and activities, (3) access and linkage and (4) comfort and image. Particularly access is related to the possibility of a place to be visible from far distances of the context and which are places easy to get to. Circulation therefore is easy, physical elements in the space are functional and safe for people. Favorable spaces provide access for the physically challenged, for children and the elderly, and have ample parking spaces and connection to public transportation systems. Comfort and image is related to how the public space is physically arranged. Good maintenance, for example is considered a positive condition, which influences positively over the perception of comfort and the image of security of a place. Subsequently, the character and charm of public places can be easily recognized and attract greater amount of people to the setting. Generally these spaces provide choices for sitting or walking and provide a favorable image of community life. Uses and activities, when attractive for people, are the main reason for people to go to public spaces again and again. When activities are missing, a place will be empty and unused, indicating that something is wrong. And finally, public spaces should have the ability to foster social interaction or sociability. When people interact with friends and family and feel comfortable socializing with strangers, they tend to feel a stronger sense of place and sense of belonging to the community.

Figure 48 Attributes that make public spaces great environments for people



Source: Taken from PPS (2000) How to turn a place around

Sociability, uses and activities, access and linkage and comfort and image, according to PPS are the main attributes of successful public spaces. These attributes will influence the enjoyment of public spaces and the social life that occur in them.

Public spaces that are designed for the visual and aesthetic appeal might be beautiful and well tended, but will not necessarily ensure comfort; people use and satisfy wide range of people's needs in those spaces. When spaces are empty, vandalized, or used by undesirables it is generally an indication that something is wrong with the design and management. Some characteristics that explain why some public places fail is:

1. Lack of good places to sit
2. Lack of busy gathering points such as playgrounds, vending cart, bus stops, etc
3. Poor entrances which are uninviting and visually inaccessible spaces.
4. Presence of dysfunctional features such as benches, paths, among others, which are more visual or aesthetic orientated than functional.
5. Uncomfortable paths, that do not direct people to where they want to go

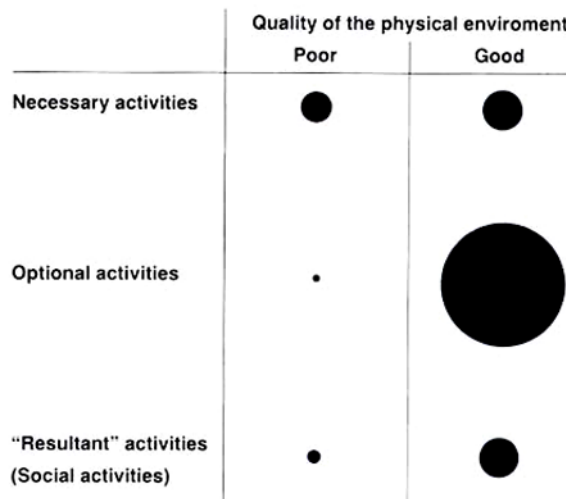
6. Vehicle orientated spaces that do not encourage safe and comfortable movement for people
7. Streets with no activities and blank walls with no identity
8. Inconveniently located public transit stops
9. No exciting activities occurring in the place (PPS, 2000).

One very important issue for making great public spaces is the presence of “triangulation” events (Whyte, 1980). The best public spaces are those, which contain activities that bring people together. This will be further explained in the sociability topic of this chapter.

The contributions of William Whyte and PPS provide not only a theoretical base for this study but a methodological base as well. It has been shown that interviewing people and observing their behavior provides key information for understanding the nature of public life, functionality and dynamics of public plazas. The previous statements have helped understand the set of functional, physical and social factors that make public places great places and successful environments for people. The four PPS principles for what makes a place great and the findings of William Whyte have also helped identifying the variables used in this study.

In relationship to the activities taken place in public spaces, theoretical considerations have shown that necessary, optional and social activities may occur in the public setting.

Figure 49 **Activities that take place in public spaces according to Jan Gehl, 1996**



The graphic shows the relationship between good physical qualities of public spaces as a condition which will not only allow necessary and resultant-social activities but will invite more optional activities which encourage more livability in urban settings. The more deficient a place is, the less optional and social activities will occur.

Necessary activities are basic activities that are common in life such as walking, working, talking, for example. Optional activities occur when people voluntarily participate and engage in activities, if available time and places make them possible. They take place when the outdoor conditions such as weather and the place encourage them. Most of these activities are recreational and will depend on physical conditions and quality of the public space. Therefore, when outdoor areas are high quality, necessary activities occur in a longer period of time and a wide range of optional activities will also take place because place and situation invite people to stop, sit, promenade and return. Finally, social activities occur when people interact, when children play, for example, which are activities that derive from the previous two categories of activities which occur spontaneously as a consequence of people being present in the same public space (Ghel, 1996).

The functional and physical characteristics of public settings are able to influence the social life and vitality of plazas. The favorable functional and physical conditions of public spaces are those that encourage interaction, people's climatic comfort and security, that encourage recreational activities to occur (optional activities) and in general, those which enhance the quality of life of plazas. Understanding the activities and physical conditions that attract people to a setting according to different authors can orient the questions to be asked to people in this research. Also can orient the development of further design implications for public plazas in Maracaibo in relationship to physical and functional variables. The issues addressed in this section have provided a referential knowledge to identify the physical and functional factors that are affecting the social life of plazas in Maracaibo.

10. Sociability and Public Life

Two concepts are helpful in understanding how people use public spaces. These concepts are sociability and public life, which will be described as followed. Sociability in public spaces is based on people's need to affiliate and interact with others. This affiliation involves people participating in a supportive social system in order to acquire psychological comfort (Lang 1994). Sociability not only increases vitality in public spaces but also allows people to connect and to exchange information, which are important issues that are examined in this research. Sociability is also related to the public life of a place, which will be discussed further in this section. When the urban environments are uncomfortable, unused, or lack many physical amenities, for example, sociability in public spaces diminishes. Although in this research sociability is discussed separately from physical, functional, security and climatically issues, it cannot be fully understood if viewed in isolation from these factors. Therefore, socialization occurs in a setting when activities in the plaza, the physical amenities, security and climate conditions are favorable for attracting groups of people, for example.

Once people satisfy their basic needs, such as survival and security, people feel the need to belong and become member of a group or set of groups, which will provide affection, support and identity for them (Lang, 1994). Specifically affiliation needs that encourage people to gather in public settings will depend on the characteristics of individuals and groups, and therefore will be manifested differently. Affiliation also can be understood through the bonds occurring between places and people. In terms of design it is important for designers to not assume that the layout of environments will dictate specific social patterns and sociability. Knowing about the factors that influence the sociability of plazas in Maracaibo becomes an important issue to address in this study due to the significant role it has over people's life and the vitality of public spaces.

One important concept addressed in this study is the notion of public life, which is related to sociability in public spaces. Public life involves bonding different and diverse people together for good or bad. It also defines people's roles in the community in order to become members of groups to make social or political statements. People can discover new things and learn from others (Car, Lynch, 1968). The character of public life will depend on the setting's characteristics: the activities, the culture of people that interact in it, and the time activities take place. Public life offers relief from daily stress, provides opportunities for relaxation, entertainment and social contact. Public life offers the possibility of bringing diverse people together and becoming a realm where people can express and proclaim their freedom.

The development of public spaces will depend on the existence of public life. The forces that shape public life can bring a broader understanding of the factors that influence the vitality of public spaces. These general forces are: (1) the environmental characteristics of the public space (which include climate and topography), (2) socio-cultural characteristics of the community, (3) the functional and physical characteristics of public spaces, (4) the political and (5) economic systems, and the (6) recreational and (7) health needs of a society. The environmental systems and specifically the climate and topography will influence the quality and comfort of outdoor public life and the nature of the settings. Public life is more dynamic in warm areas, although it will depend on people's climatic tolerance and the capacity of the setting to shelter users from the natural elements. The presence of natural elements in the public space will also support the public life, by softening the roughness of the built structures, provide retreat from hectic life and invite the passerby to rest. Natural elements are also able to provide relaxation, pleasant experiences and restorative qualities for people (Kaplan and Kaplan, 1989). The socio-cultural characteristics of the community; the social values and beliefs of people influence the way they interact and socialize in public spaces. Another factor is the presence of shared meanings and rituals in public spaces determined by holidays, cultural and historical events that encourage a sense of belonging and participation in the community in the public space. The nature of the community also determines the public life of a society; its size and heterogeneity can affect the balance between public and private realms. In highly diverse communities, it can be difficult to establish people contact and

interaction. This can cause isolation and create “tunnel vision”, contributing to the “anonymity and facelessness of the city” (Carr and Francis, 1992). Criminality activity has had a negative impact on the public life of the city caused by criminal behavior and drug dealing. Therefore designers should try to create safer cities through the arrangements of physical space. The functional characteristics of the public space can influence the quantity and quality of people attracted to a setting and promoting interaction or not. The physical structure of a setting can affect the public – private balance and the nature of public life. The street’s condition has the ability to engage or disengage people and determine the relationship between pedestrian and automobile use. Appleyard (1981) has indicated that the automobile dominance in streets has had negative influence in the decline of public life. The socio-political systems influence the right to gather in public spaces and to determine the degree of freedom of speech and expression. Economics also determines the availability of public spaces, and the development and maintenance of those spaces. This will also influence new developments of public spaces that will attract other activities and users to the environment. Finally, the community’s fitness and health characteristics will determine the use of public spaces. Sport activities demand open spaces that are available in plazas and parks and therefore encourages public life (Carr and Francis, 1992). These factors although extensive allow to have a broader understanding of why public life can be encouraged or limited in public spaces. These factors provide knowledge, which will help define the methodology to use, orient the questions to be asked and support the analysis of the results to be developed in this study. In general, this enhances the understanding of public spaces in Maracaibo.

Theoretical considerations have also indicated that social public spaces are generally filled with people. This people presence in public spaces also attracts other people, which suggests that what attracts people the most to urban plazas is the presence of other people. Therefore, the best-used plazas are the sociable ones with a higher diversity of people, more people engaged in groups, in couples and more people meeting people. Those who visit public spaces alone also prefer to frequent the livable ones (Whyte, 1980). Most sociable and livable public spaces tend to: have higher numbers of woman in them, amenities such as monuments, stairs, fountains that encourage people to lean and socialize among them, and also the sense of security experienced in the public space. Other factors present in socially active public spaces are: climatic comfort, the presence of mixed activities in the area, large number of people presence as stated above. Theoretical considerations have also mentioned that visually and aesthetically pleasing plazas are sociable spaces but this condition alone does not provide complete satisfaction by itself. The size and number of seating spaces in the public space and their comfort influence sociability and people gathering in the space. Finally, the presence of special events, spectacles, street performances, and public art become activities or events that link people together and make plazas more amicable and attractive for people. Whyte defined this ability as “triangulation” which is:

The process by which some external stimulus provides a linkage between people and prompts strangers to talk to each other as though they were not. (Whyte, 1980 p.94)

Therefore the link can be a physical object, a sight or an activity with the intention of stimulating conversation and human connection.

Plazas should provide opportunities for people to interact and engage. This interaction may occur at different levels of people involvement, which will depend on the conditions of plazas. Particularly this last statement is important because knowing about how sociability occurs in public spaces will provide indications of the physical and functional, climatic, and the general conditions that favor this social contact. High-populated cities like Maracaibo where community is diverse, the possibility of having public spaces that can favor people interaction (even among strangers) can support people's sense of community and sense belonging within those spaces. Theories related to sociability were considered in order to learn what authors have stated in relationship to this topic, understand factors that could support that sense of community needed in people in Venezuela (as showed by Barroso). Exploring this topic can provide an understanding of the factors that bring people together in public plazas in Maracaibo and therefore obtain the set of physical, functional, security, climatic comfort factor influences the different levels of people involvement. The previous theoretical considerations have provided an understanding of the numerous factors that affect the sociability in public spaces. Such factors have been obtained through observation, interviews, questionnaires, for example, that have orientated the way sociability should be addressed in this study in Maracaibo, Venezuela.

11. Needs in the public space

One of the main goals of public spaces is ensuring the satisfaction of human needs. Knowing people's needs and preferences and what the public space offers to people are key issues for understanding what makes a plaza great places for people, what attracts people to these settings, and on the other hand, what factors have created unused public settings. Therefore, it becomes important for designers to understand the users preferences and needs in the public space. The concept of "preference" sometimes used in this research relates to what people prefer, like and dislike about public plazas. In later chapters of this thesis, the concept of people's needs intend to be addressed through observations and interviews. The following theories and findings related to needs in public spaces, will orient the questions to be asked and some issues to be looked at in Maracaibo's plazas, in order to understand how and which needs are fulfilled.

Fulfilling human needs represents a very important goal in the urban design field (Lang, 1994). Designers, in general, make assumptions and decisions based on their own models of human beings with little or no reference to theoretical research.

“If the built environment is to serve human purposes, one must have a good model of human needs to use as the basis for asking questions about what should be done, what functions should be served in a specific circumstance” (Lang, 1993).

Unfortunately, few designers have a full understanding of people and their needs; therefore, they approach user needs and satisfaction in a basic way or do not address it at all (Lang, 1994). This situation is also typical among urban designers in Maracaibo, in which modern ideals and human exclusive attitudes towards design are common. The lack of consideration of human needs has created many urban negative impacts in Maracaibo. It is crucial that urban designers understand people’s needs in public spaces in a much broader way; they need to obtain a richer model of human needs. Maslow’s classification of human needs is a useful model for the design field due to the variety and range of needs to be considered that can be used in the design field due to the broad range of needs it take into account. Particularly those needs studied by Maslow (1968) are: survival, safety and security, belonging, esteem and self-actualization. These needs if considered in design, would enhance the quality of life of urban spaces in Maracaibo and therefore provide people satisfaction in public settings. Therefore, meeting people’s needs will translate into human satisfaction and well-being; its inconsideration, on the other hand, could cause alienation, isolation and lack of control of the urban environment (Lang, 1994).

It is important to examine needs, not only because they explain the use of places but also because use is important to success. Places that do not meet people’s needs or that serve no important functions for people will be underused and unsuccessful (Carr, Francis, Rivlin and Stone 1992 p. 91-92).

Public plazas are urban settings that have an important role in a community life, which could enhance the people satisfaction, experience and enjoyment of outdoors setting of a city. Particularly knowing how human needs have been fulfilled in other public spaces and addressed by theoreticians can provide a referential knowledge to evaluate and analyze why urban settings in Maracaibo succeed or fail in satisfying needs. Research has demonstrated that successful plazas are those, which fulfill the needs several human needs. These needs are (1) comfort, (2) relaxation, (3) passive and (4) active engagement and (5) mystery and discovery (Carr, Francis and others, 1992). These needs can be satisfied through the different uses and activities in the urban environment, the presence of attractive spatial qualities and amenities in the public space, the presence of security and climatic comfort. Comfort is related to the need for food, drink, shelter from the natural elements, and rest. Comfort deals with the relief of sun and provision of shade in the case of public plazas in Maracaibo. Specifically, social and psychological

comfort in the public space can be achieved through promoting a sense of security and by reducing threats to safety. Concern for safety, which is included in this category, is one of the reasons for people to avoid parks and plazas and particularly avoid visiting plazas in Maracaibo. The concept of security and climate comfort will be presented later in more detail in this chapter. Relaxation on the other hand, depends on the ease of the body and mind. Generally, the sense of psychological comfort is a prerequisite for people to relax. Relaxation in public spaces can be achieved through quiet atmospheres, through visual and physical seclusion from the rest of the urban environment, through the sensory stimulation from natural elements, and will depend on the levels of stimulation and noise, separation from the vehicular traffic and pedestrian flows. Passive engagement is related to the need for an encounter with the setting without becoming actively involved. It derives from the interest and enjoyment of public spaces by observing other people or watching the passing scene, therefore, this process derives from looking rather than talking or doing. It involves watching others, the opportunity to watch performances, viewing public art, watching activities such as games or sport events, watching pedestrian traffic and observing street scenes. In addition, active engagement involves direct contact with other people and the environment. It can be done through “triangulation” (Whyte, 1980), which has been defined in a previous segment of this chapter and allows interaction between people and strangers. Therefore, active engagement has a social function that can be acquired through social interaction, gathering and promenading, children playing, recreation and sports activities, and all promoting vigorous energetic use of the human body. Active engagement involves participating in sport activities, which encourage exercise and health, manipulating elements of the environment such as sitting amenities, buying food or goods and being entertained by spectacles. Generally, active engagement in public spaces is highly attractive for people because it stimulates social interaction, positive images of the space, and allows public spaces to be livable and dynamic. Finally, discovery involves people’s desire for stimulation (pleasurable experiences) and exploration of the public spaces. It also involves the feeling of surprise and new experiences that excite, educate and delight people. Creating a diverse and changing physical setting with changing and unexpected vistas, changing activities, changing levels and sectors can encourage the sense of discovery and interesting and diverse experiences for people. Discovery often propitiates the feeling that anything could happen or exist if the environment is further explored. (Carr, Francis, Rivlin and Stone, 1992)

Human needs have been addressed in this study is because they influence the success of public plazas. Therefore, understanding the human needs of comfort, relaxation passive and active engagement and the need for discovery was helpful in developing the questions used in the interview in this study. This study examines what attracts people to plazas, what are their likes and dislikes and their perception of what should be added or deleted from those settings in order meet human needs in public spaces.

12. Human comfort in public spaces

A feeling of comfort is important to a lively and successful urban plaza. Particularly in this study, comfort in public spaces will be related to climatic and security issues, which are considered to be two factors that might be affecting the lack of people presence in public plazas at some hours of the day in Maracaibo. The following will provide an understanding of how climatic and security affects the comfort of public spaces according to several theories. In relationship to comfort, it will be necessary to define this concept before developing an understanding of climatic comfort and security. Therefore, human comfort has been defined as:

Comfort, at a minimal level, implies a freedom from pain on all dimensions of environmental experience. Biological comfort has to do with a person's assessment of the level of stimulation to which his or her body is being subjected (Lang, 1994 p. 221).

A related concept is metabolic comfort (Lang 1994). This concept states that a person's metabolic comfort in the outdoors will depend on the individual's activity, the air temperature, humidity, radiation, air movement, and the clothing worn.

As follow will be discussed some issues about climatic comfort and security which are two important attributes of the outdoors public spaces that affect the vitality and social life of plazas.

12.1 Climatic issues in the urban setting

Unfortunately, many urban spaces in contemporary cities like Maracaibo are designed without addressing the climate. Many urban designs and renovation processes of public spaces are developed with little consideration of environmental factors such as wind direction, sun intensity, and temperature. Some consequences of this lack of consideration are creation of unpleasant streets for people and climatically unfavorable plazas that are located on inappropriate sides of buildings (Lang, 1994). This attitude has created many uncomfortable outdoor spaces that are not providing comfort and satisfying people's physical needs.

The negative effect of the built environment and particularly urban spaces on human comfort in the outdoors has led to a number of studies related to bioclimatic issues. The most important factors affecting the metabolic comfort of people in public spaces in Maracaibo are high levels of temperature, sun incidence, and humidity, which are characteristic of the hot-humid climates like Maracaibo. Climate considerations for Maracaibo, therefore, must be related to minimizing hazards from tropical storms and floods, minimizing thermal discomfort from the intense sun incidence and heat, providing adequate shade

of outdoors surfaces and taking advantage of the prevailing breezes (Givoni, 1998; Marcus, 1998). The effects of heat and humidity over urban spaces in Maracaibo have been highly negative and limiting people's use and activities in the public setting. High levels of humidity when accompanied by high temperature are found to be uncomfortable for people (Marcus and Francis, 1998). The presence of trees, fountains, water features in the landscape, can change the degree of humidity of urban plazas, parks and streets. Breezes can mitigate the negative effects of humidity. Minimizing thermal discomfort which is the major comfort concern for Maracaibo includes: providing shade for pedestrians and any outdoor activities, good airflow around buildings and public spaces and minimizing the "heat island" (Givoni, 1998) effect in densely built areas. The "heat island" effect is caused in high-density urban areas with poor ventilation and strong heat accumulation effect. Negative effects such as "heat island" effect addressed by Givoni, is assumed to exist in Maracaibo. This effect also might be worsened by the work of designers by not predicting the possible climatical impacts of their work over the urban environment. The lack of careful thought about temperatures, sun incidence and humidity in Maracaibo, have resulted into negative effect over the urban environment.

The environmental psychology field has explained another effect of climate over people, which influence people's attitudes and behavior in Maracaibo. When temperatures are severe in an urban environment, the effects will not only affect people's pattern of behavior and feeling of discomfort but will create stress and aggressiveness in people (Cassidy, 1997). This once more explains the importance of addressing the climate in public space design and the psychological influence of severe climate conditions over people's behavior in public spaces. Particularly for the success of public spaces in Maracaibo addressing the climatical factors in design is critical, and therefore, the climatic variable should be incorporated in the designers task.

The previous considerations have shown that a careful analysis of the site's conditions before developing an urban design approach of public spaces is also critical. Urban climate can be modified at the microscale level (in this case, the scale of a plaza), through the density of buildings, land coverage, height of buildings, orientation and width of streets, subdivision of blocks, the location of open spaces and location of water features (Hyde, 2000). At the microscale urban environment the creation of shade for warm climates is particularly important and provides a major contribution to comfort. The environmental impact of large buildings in plazas can be a concern. Sometimes, the location of large buildings close to public spaces can cause reflection of heat into the space and therefore create heat gain. In order to mitigate severe microclimatic conditions and take advantage of any favorable conditions, the first stage should involve developing careful research by collecting microclimatic data and analyzing it. This involves the study of wind flow, sun path, sun radiation effects, vegetation, topography, rain, air temperature, location of hot spots, surrounding building massing and density, water tables, and the location of natural features, for example. The second stage involves an environmental analysis in which the data collected is correlated to the existing urban uses and buildings, allowing an understanding of the climate and the

environmental problems of the urban space. This is crucial for architecture and urban design. This form of microclimatic study is a prerequisite for a “climate responsive design” (Hyde, 2000).

In order to improve the climatic comfort experienced in many buildings and urban spaces, local ordinances have become necessary. Unfortunately in Maracaibo, although historically climatical ordinances existed, those ordinances were modified and repealed in the 1940’s (modern period) in favor of urban renewal and development, which caused many climatically uncomfortable buildings and urban spaces. Climatical research at the Universidad del Zulia has provided a lot of literature regarding design recommendations for buildings and the urban environment ². These academic findings are being used to develop updated climatic ordinances that will make the process of adapting built environments to the local climatical conditions mandatory. This reflects a growing interest among Institutions such as COE and the academia to improve the negative effects of the climate conditions in Maracaibo. But, what is still missing is an awareness of climatical issues and strategies for approaching these issues among designers. It is anticipated that this study will influence somehow the awareness of the importance of climatic issues for the urban environment in Maracaibo.

Climate is one of the most influential factors that determine human comfort levels in public spaces and the social life of public plazas. Therefore, it has been shown above that climate plays an important role in urban design and people’s capacity to enjoy and experience public spaces. The importance of this topic is also reflected by the amount of research and literature developed both in academic institutions in Maracaibo and at many other institutions around the world. The climatic issue has become one of the most addressed topics due to the effects of global warming. Climatic factors are therefore, determinant factors influencing the social life of plazas, the intensity of use experienced in them and the activities that people engage in those places. If these issues are not addressed the social life in these spaces will be diminished, which is not the goal of plazas. These climatic issues will be examined in Plaza de la Madre and Plaza de la República in order to understand the user’s reactions about heat and sun incidence and the physical conditioning of plazas affect their comfort and use of such spaces.

12.2. Security in public spaces

Once needs of survival and basic comfort are fulfilled, people focus on the satisfaction of other needs such as security and safety (Lang, 1994). There are two types of security need that influence the designer’s work. The first is a physiological need, and the second is psychological that encourages a sense of place from a geographic and social point of view. To achieve physical security, people must feel

² The general climatical characteristics and climatical design recommendations for Maracaibo were established in Chapter II: Maracaibo’s climatical analysis.

safe from criminal assault and from various types of accidents. To achieve psychological security there is a need to avoid the unexpected, to be in control by knowing the social and physical environment and to be familiar, in this case, with the public space. The sources of insecurity will also depend on people's perception of crime, on their demands of safety, and the level of competence with the environment and the crime sources. Psychological security is an important concept that should be managed by designers and is attained through peace of mind and the individuals control over their life (Lang, 1994). One of the mechanisms for attaining control is through well-designed environments that provide security and territoriality, which will be explained further in this section.

In terms of security, it is important to know who are the users of a public space. The presence of undesirables; homeless is rarely associated with crime, but rather with a feeling of offense and embarrassment, or guilt of seeing others less fortunate in public spaces. Providing inviting uses for a diversity of people offer opportunities to mingle with a large cross section of society and therefore motivate social tolerance, people surveillance and therefore security (Marcus and Francis, 1998).

A feeling of security is important to a lively and successful urban plaza. A feeling of security depends on several factors. First of all, many authors have agreed that visibility within the plaza is an important factor for attaining security. Visibility, which is related to natural surveillance (Crowe, 2000), is the chance for individuals to be seen by others and obtain assistance in case any assault and crime. Obviously, if there is a greater number of people in a plaza, the sense of security and be seen by others is greater. This may explain why the sense of security may increase in highly visited plazas. Also, the presence of mixed-uses around public spaces encourages continuous activities and presence of people, thus, allowing this natural surveillance to occur. In sum, if a plaza provides opportunity for different activities to take place, it will encourage the presence of many uses and people, which can increase the feeling of safety and visibility by others. Special or programmed events in plazas can encourage people use and urban safety that increases visibility. Lack of visibility and not knowing what comes ahead on a route also contributes to the feeling of insecurity; therefore providing "visual permeability" and clear sightlines is important (Wekerle and Whitman, 1995). Gaps or confined areas, which are isolated and offer no exit along walkways, must be avoided in public spaces. It is important when dealing with walkways to provide alternative routes and exits, which can prevent people from being trapped. Incorporating emergency telephones, intercoms and video cameras in those spaces can also be helpful.

In addition to the factor of visibility, Wekerle and Whitman (1995) consider that urban safety also depends on the awareness of the environment and the possibility of finding help. These two other factors although related to visibility are also important for increasing the sense of security in a public space. Awareness of the environment is attained when public space layout is understandable by the user; when it is possible to perceive the surrounding environment and know what is ahead. This is possible by

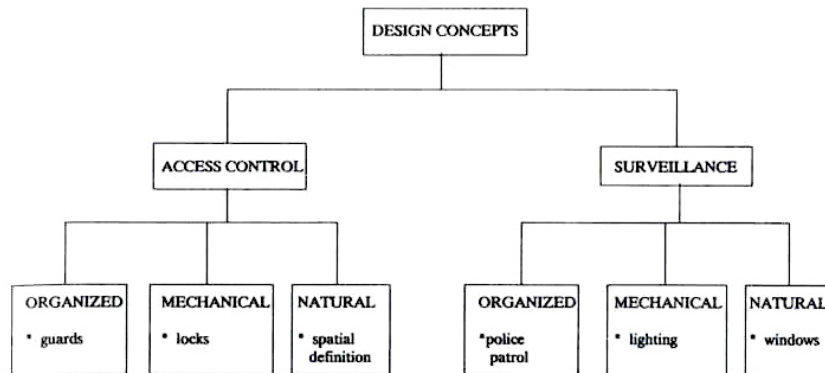
providing adequate lighting, clear sightlines and the elimination of entrapment areas. Improving lighting in public spaces, for example, can decrease fear of crime, increase visibility, encourage use of areas at night, increase the opportunity for offenders to be recognized, and for the victims to be seen and aided. Finding help, on the other hand, consist of the opportunity of being aided by others in case of assault. This includes the presence of signs that indicate assistance or help, maps which help people know where they are and where to go if they need help.

Another factor, which contributes to the notion of security, is the image of a place. The legibility and aesthetic value of a place is also important for creating a sense of security. Generally unaesthetic public spaces with no maintenance and care, which are filled with litter, graffiti and damaged amenities discourages use, therefore lowers the feeling of security. It is important for public space design to provide quality and beauty, legibility and signage, which avoid confusion and ambiguity in users; but this aesthetic approach as mentioned earlier in other section of this chapter, although improves the image of the place it is not the main goal for ensuring safety in public spaces by its own (Wekerle and Whitman, 1995).

One of the most recent contributions to the literature on security is Crime Prevention Through Environmental Design (CPTED). CPTED is a set of strategies that designers can apply to reduce the crime of urban plazas. According to the CPTED strategy, the environment can be manipulated to promote behaviors that will reduce incidence of crime and contribute to an improvement in the quality of life. This can be achieved by reducing the physical environment conditions to support criminal behavior. This area adds to the discussion of security, the concept of territoriality, which relates to access control and surveillance as considerations to reduce crime. Territoriality is directed towards creating a sphere of influence in which users or inhabitants of a place develop a sense of proprietorship or territorial influence, which is perceived by offenders.

CPTED involves the design of physical space based on physical, social, and psychological needs, the intended uses of those spaces and the expected behavior of both users and offenders. CPTED strategies fall into two categories, which are access control and surveillance. Access control is directed to decreasing the opportunity of crime to occur in a setting, its goal is to deny access to a crime target and to create a perception of risk in offenders. Access control can be categorized as organized access control (through the presence of guards and policemen); mechanical access control (such as locks, electrical gates and cameras) and natural access control (which is achieved through spatial definition and people presence). Surveillance is the ability to see what is going on in the plaza. It includes aspects of the physical design discussed in a previous section of this thesis such as lighting and the presence of security personnel and surveillance cameras, for example. Surveillance design strategy focuses in keeping intruders under observation and watching over the safety of people that may use public spaces. Similar to access control strategy, surveillance strategies are classified as organized, mechanical and natural.

Figure 50 Access Control and Surveillance Classification



Source: Crime Prevention Through Environmental Design (Crowe, 2000 p. 37).

CPTED theory identifies six factors related to access and surveillance as important design considerations that could be incorporated in the creation and arrangement of new and existing public spaces in order to reduce crime.

Access control and surveillance contribute to a sense of territoriality, which will encourage people to protect their territory and incorporate more security, awareness, reporting crime events, and promote a greater perception of risk by offenders (Crowe, 2000 p 36 – 37). The CPTED goal is to prevent crimes from happening and to create a sense in the mind of the criminal that he or she is being observed. Thus, making them less likely to commit a crime for fear of being caught. CPTED infers that places require rigorous managements to become safer. These strategies can be applied to public spaces in order to achieve greater security in the outdoors.

The previous factors have indicated how sense of security can be attained in public spaces. The previous knowledge has shown that knowing the other users of a place, being accompanied and seen by others (visibility) increases security. That awareness of the environment, the image of the place, opportunities for finding help and access control and surveillance are factors that are able to enhance the sense of security in any public space. These are considerations that should be known by designers in order to create safe places for people and particularly create secure public spaces. By knowing what causes a fear of crime and what can be done to prevent it, it becomes easier to observe and analyze indicators of crime that influence on the enjoyment, comfort and experience of public spaces in Maracaibo. This knowledge was used in developing the questions that will be asked to users of Plaza de la Madre and Plaza de la República.

The literature review suggests that the physical and functional attributes of plazas are able to influence the enjoyment, the sociability of plazas and also the sense of security and climatic comfort of

users in such public spaces. The development of plazas will depend on the existence of social interaction and therefore, plazas should provide conditions for sociability to happen because it increases the sense of community in people. Public spaces should satisfy the needs of comfort, relaxation, passive and active engagement and also fulfill the need for mystery and discovery. That security and climatic comfort mentioned above are determinants of the enjoyment and number of visitors of the plazas. The literature review also indicates that many factors influence the social life and vitality of plazas, and that these factors are also linked together to create its success. Designers should be more knowledgeable about these topics, and there is a great need to incorporate these theories into their design tasks. The literature review has influenced the development of the methodological approach and has oriented the questions to be asked on users in Plazas in Maracaibo.