

STRATEGIES FOR
IMPROVING THE NIGHT ENVIRONMENT

by

ALLEN GLENN GERSTENBERGER
B. Arch., Kansas State University
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Signature of Author.....
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Certified by.....
Thesis Supervisor

Accepted by.....
Chairman, Departmental Committee
on Graduate Students

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ABSTRACT

Strategies for Improving the Night Environment

Allen Glenn Gerstenberger

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The city is dynamic, constantly changing its appearance and its use. The affects of darkness on the city are profound; people's attitudes change, their patterns of use shift and their perceptions of the city are altered. Researchers and designers have studied people's attitudes and behavior in the day city, but have ignored the night city. Consequently, night environments do not reflect the needs of the users, but rather attempts to eliminate the darkness.

Obvious problems accompany the night city, many of which are a result of lack of information about how the night city is used, and how it is perceived. Through defining the issues, better understanding people's attitudes, and developing a process for inventorying the resources of the night environment, it would be possible to create city environments which are successful both during the night and the day. To do this, it is necessary to better understand how people react to different situations, and how the reactions affect the night city.

This study defines the critical issues resulting from, or complicated by, the darkness. The problems are situational with their definition and weighting a result of the needs and desires of the users and potential users; therefore, it is not possible to define specific solutions which would be successful in all night environments. A strategy is discussed which develops a process for creating more successful night environments which is dependent upon the specific situation. It includes inventorying the available resources as well as people's attitudes, offers models for generating alternative solutions and provides elements to be considered when selecting a strategy for improving night environments.

There are five important issues affecting the form and use of the night city discussed. First is the fear of street crimes which restricts the use of the night city for many people; second is the limited opportunities for both personal and public activities available at night; third, the environmental information presented in the night environment is inadequate to support comfortable use by the pedestrians. Resulting partially from the first three issues in addition to others, the fourth factor is the inefficient manner in which the resources of the night city are wasted; and finally, inequitable social consequences result from the continuation of these problems. The issues are interrelated and critical if American cities are to be available for use throughout the twenty-four hour day.

A process for generating alternative solutions for dealing with the issues is discussed, outlining important factors for consideration. The first step is to define the problems and weight their relative importance; this is dependent upon the needs and desires of the users and potential-users. The second stage is to inventory the assets and liabilities of the night environment; this includes the attitudes of people, how and why the night environment is and is not used, and how the physical environment supports or restricts use after dark. This information provides an understanding of the issues of the night environment being considered and provides priorities to be established which reflect the true extent of the problem.

Three concepts are discussed concerned with the issues of the night environment: a crime prevention strategy, basic considerations for providing environmental information for the pedestrian in the night environment, and the need for generating new opportunities for varied activities in the night environment. These provide general outlines for the development of strategies for creating more secure, informative, and functional night environments.

Finally, the study indicates that there are several criteria which are important to forming successful and enjoyable night environment: (1) there must be adequate environmental information to allow the user to feel comfortable in the decisions that are made; (2) the composition of the users must insure compatibility; (3) there must be opportunities and incentives for using the night environment; and (4) the citizens must accept individual and collective responsibility for securing the night environment. The methods for achieving each of these is dependent upon the situation, the needs and desires of the users and potential users, and the other constraints of the situation.

Thesis Advisor: Gary A. Hack
Title: Associate Professor of City Planning

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INTRODUCTION

I have long been a fan of cities at night. I found them to be diverse -- sometimes resounding with excitement and glitter, sometimes serene and contemplative. I have enjoyed walking through American cities at all hours of the day, feeling little or no fear, simply enjoying the opportunity to learn about another face of the city.

When talking with people about my experiences in the night city, I noticed an almost educated reaction to the thought of walking alone in the night city; it was often a negative reaction, and particularly concerned with fear. But I was also aware that it was seen as a free time, a time when people did not have commitments. The relationships seemed strange -- why so many people were hesitant to go out at night, particularly alone, yet there were so many things that they wanted to do.

I began this study by asking questions about why the night cities were associated with fear. I hypothesized that if night environments could be designed to make people feel welcome and comfortable, the intensity of use would increase, pedestrian security would be increased, and the city would therefore be more livable throughout the day and night.

This study reflects the changes that I've experienced while looking at the problem of the night city. The problems are more complex and interrelated than I had expected. I made two initial

discoveries of importance: (1) Everyone has very definite opinions and impressions of the night city; never once did I meet a person indifferent to the night environment; and (2) there is a minimal amount of pertinent information about the effects of darkness on American cities -- how it affects people's attitudes, their behavior, and the daily cycles developed by society to deal with the issues. I was surprised to find that the night is often, if not always, considered to be a factor of "secondary importance" in environmental research; from my own personal experiences of researching the subject I cannot understand this -- the effects of darkness are significant and affect everyone. Information about perceptions of the day city are not transferable to night situations -- well designed day environments are by no means successful night environments. The problems are significant and most difficult to solve, but must be confronted. I have tried to simplify the issues of the night environment and order them in a fashion that may serve as a road map of sorts for future research.

This report begins with a discussion of the night city as a setting and the actors who do and do not use it. Many people restrict their use of the night city for a variety of reasons, including fear of attack. The major problems of the night environment are then outlined in chapter one and discussed more extensively in chapter two. The five issues are defined as:

1. Fear of crime;
2. Lack of opportunities;
3. Lack of information about the environment and other users;
4. Inefficient use of the city's resources; and
5. Inequitable social consequences.

Attempts to deal with some of the problems of the night are being made, but the results are yielding only marginal improvements. Chapter three discusses some of these strategies and how successful they are. Drawing the conclusion that the present strategies (1) are not based on adequate information to make appropriate decisions, (2) they approach the problems with a negative perspective rather than attempting positive changes, (3) they have negative effects on the attitudes of the users, and (4) they try to solve the problems independent of the others. The results are obviously unsatisfactory.

Building on the deficiencies and errors of the present strategies, I discuss the type of information that appears to be necessary to understand how to create successful night environments. This involves several basic points:

1. The solutions must attempt to create positive attitudes, insuring that the city is not only safe and used efficiently at night, but comfortable and enjoyable as well.
2. The problems of the night city are situational, and, though it is possible to generalize the problems and the factors to be considered, it is not possible to declare criteria that would be successful in every situation.
3. The approach to improving the night environment must both minimize the risks involved with use and maximize the opportunities for use.
4. A vocabulary for discussing the important elements of the night city is needed to provide a method of inventorying the situations and subsequently generating solutions based on the information.

Therefore, chapter four outlines the information that is needed to create successful night environments, a method of inventorying the existing situation, and four basic concepts which contribute to successful and livable night environments.

The final chapter briefly summarizes the conclusions and outlines a hypothetical procedure for evaluating a situation to understand its problems and potentials, and then generate alternative solutions.

This study is directed toward those persons whose decisions affect either the physical environment or the programming of uses of the night environment. The audience may be divided into three groups:

- a. Planners and designers -- the individuals whose responsibilities include understanding the functioning of the city and making sensitive recommendations for its use.
- b. Criminal justice professionals -- persons responsible for reducing street crimes.
- c. Policy-makers -- the politicians and bureaucrats who set the priorities and allocate the funds which affect the use of night city and pedestrian security.

The primary audiences are planners and designers, not because they are the most influential clients for affecting changes in urban environments, but because they are a group which should be confronting the issues, rather than avoiding them.

The considerations discussed deal with the issues of the night environment, rather than specific solutions. This was necessary because individual elements may only be studied in depth when their

relationship to the whole is understood. As an example, lighting is a facet of the night environment affecting people's attitudes and their use of the city. Specific research could be conducted to test the influence of different lighting patterns on people's attitudes, but detailed information about illumination levels and uniformity ratios would be of little practical value unless lighting's relationship to pedestrian compatibility or environmental legibility was understood.

Therefore, I found it necessary to conduct a broad overview of the relationships between the physical setting, people's attitudes and the problems of the night city. The result is not hard statistical data which may be directly translated into design solutions, but a listing of the issues to be considered.

Therefore, the reader of this study could expect to receive information about how to look at and interpret the components of the night environment and to better understand their affect on people's attitudes and behavior. It is a work book, discussing issues and ideas, rather than a cook book giving recipes to build successful environments.

CHAPTER ONE
THE NIGHT CITY:
THE SETTING AND THE ACTORS

Like a snowfall blanketing the earth with white - softening forms and simplifying the complexities - the night shrouds the city in darkness, coyly yielding information, hinting at what might be. The urban night is a story of darks and lights, laughter and rest, humor and tragedy. Distantly related to the day city, the night city has its own personality, telling each meeting her a different story. Poets have used the night for inspiration, novelists for romance and murder, photographers for recording drama. For all its beauty, grace and poise, it is often ugly, oppressive, and confusing. Very little is known about the night city in terms of people's attitudes, their reactions, their desires. Our physical environment is built for the sun, while at night we hang lights above our paths. Buildings lose their forms and districts merge with the darkness as if they never existed. Surely we have more respect for life in our cities than to ignore the assets of the night and misuse half the day. Surely the city can be livable for all people twenty-four hours a day.

The assets of the night city are found in the diversity of activities and environments offered. It is a quiet walk along the Charles River looking at the Boston lights, it's a party with friends, it's a concert or a baseball game. It offers a quiet time for resting, or a noise and glitter for dancing. Carl Sandburg wrote of the

the different moods of New York City at night, expressing the variety offered:

In the night, when the sea-winds take the city
in their arms;
And cool the loud streets that kept their dust
noon and afternoon;
In the night, when the sea-birds call to the
lights of the city,
The lights that cut on the skyline their name
of a city;
In the night, when the trains and wagons start
from a long way off
For the city where the people ask bread and
want letters;
In the night the city lives too -- the day
is not all.
In the night there are dancers dancing and
singers singing,
And the sailors and soldiers look for numbers on
doors.
In the night the sea-winds take the city in
their arms.

"Night Movement--New York"

The night city is a function of what man wants it to be; he may respect its darkness and silence, or he may light it and interact with others in it. Both are necessary responses to problems of the night city, but they must serve the needs of people and be sensitive to the effects of changing environments on people's attitudes. Unfortunately, little is known about how night environments function or effect these attitudes. Environmental researchers dwell on the day environment, with little consideration given to the hours of darkness, even though the effects of night environments are profound. However, it is not possible to assume that research of people's attitudes about the day city is transferrable to the night situations. In fact, the reverse is often the case: people react quite differently

at night, using different criteria and standards for their decisions.

For the night city to become more livable, it is necessary to understand how it differs from the day and how people respond to the differences. The lack of natural illumination brings with it different uses and impressions making the night city a series of extremes which may attract or repel, explain or confuse. Chapter I will discuss some differences between the city of the day and of the night, after which the users and activities of the night will be described. The question of who does not use the night city as well as possible reasons for this disuse will also be explored.

The Setting

The day city is commonly thought of as a place for work, for outdoor activities or for general social interaction for both business and pleasure; stores are open, activity levels are generally high, transportation systems operate, and visibility is good. The night city, though having many similar functions is quite different--the environment provides less information, fewer services and shops are open, and skeleton work forces maintain the facilities. It is often characterized as a time for entertainment, socializing, or resting. As Carl Sandburg phrases it:

You shall have peace with night and sleep,
It was written in the creep of the mist,
In the open doors of night horizons.
Peace, night, sleep, all go together.

"Peace, Night, Sleep"

Or, as one New Jersey lady expressed it, the night city is "completely closed, just shuts down."

This daily rhythm is deeply embedded in our culture...music, art, mythology, literature and poetry portray the daytime as an activity time and the night for rest. The work schedule upon which this rhythm is based was originally determined by the hours of sunlight, beginning at sunrise, ending at sunset. Although technology has made it possible to see as well at night as during the day, the work/rest cycle continues. Coordinating communications and activities is, of course, more reliable through the uniform schedules; however, definite problems are created -- transportation systems are congested at "rush hour", vacant buildings are heated or cooled and options for scheduling activities are restricted.

The primary reason for this cyclic pattern was that the night environment lacks the visual information required for the performance ✓ of functions or comprehension of setting. During daylight hours too much visual information is provided and the user is forced to select what is needed. The situation is often reversed at night when the user lacks enough information to make a confident decision, which affects the ✓ susceptibility to encountering problems. "At night the city-dweller is perhaps most vulnerable. The instincts nature provided for his safety in dark, alien surroundings have decayed to inadequacy; he can't see or hear enough, he can't fight or run well enough." ¹ ✓

This lack of visual information need not be the problem that it is, for the night environment provides a setting in which important information may be presented in sharp contrast to the background, its importance emphasized. Inattention to the informational needs of the users has prevented consistent, sensitive design solutions.

Well-defined districts of night activities become focal points,

while other districts are threatening in their loneliness. Extremes may be confusing to people if they expect on thing and receive another; such as the contradiction between the downtown's image as an activity center and its desolate streets at night. However, extremes can provide explicit definitions to the users, conveying information quickly and efficiently when properly designed.

There are also other factors affecting people's attitudes about the city at night. When interviewed many people commented that they preferred not to go out due to a lack of confidence in others or because many establishments are closed and the buildings vacant. The early closing of gas stations during the gas shortage in 1973 was viewed as a loss of a support facility which normally guards the night environment.² There also appears to be a growing opinion that strangers are more a negative element than positive. Philosopher-historian Lewis Mumford, commenting on the disintegration of the American social structure stated: "I remember when I would sit in Central Park with my wife and never worry about strangers--except for the spotlight the policeman would occasionally shine on lovers."³ As will be discussed in the following section, the interaction between people in the night environment is extremely sensitive, but provides the key to creating a more successful city.

Users of the Night City

Though not as intensely used as the day city, it is obvious that many cities support substantial amounts of activity at night. New York City, Miami, San Francisco, Las Vegas, and Boston all have reputations for being cities with good "night life", but reputations

are measured in terms of entertainment, not the true intensity of use. Many service functions maintain work staffs throughout the night, such as nurses, cab drivers, utility companies, hotels, janitorial staffs, and prostitutes. These people, estimated at between 15% to 25% of the population, make up a class of people who venture into ✓ the night environment every night.

However, for most, the decision is personal preference. Many of the elderly people interviewed mentioned that they think people now use the city less at night than in times past. To find out more precisely how frequently people go out at night and what their activities are, we interviewed persons in Norfolk, Virginia (54 respondents) and in Boston (60 respondents).⁴ In both cases the persons were chosen at random and constituted a reasonable representation of the population. The average number of nights spent away from home for the Norfolk sample was approximately 2 1/2 per week, and in Boston it was approximately 2 1/4.⁵ So it would appear that, on the average, people spent about one-out-of-three evenings away from home.

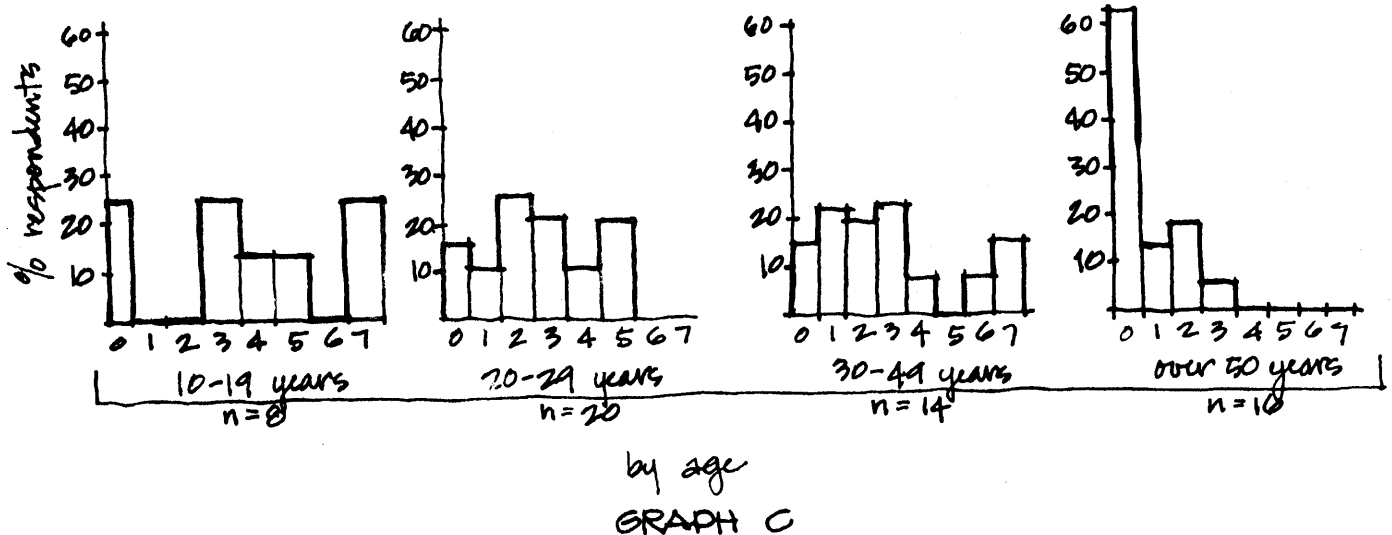
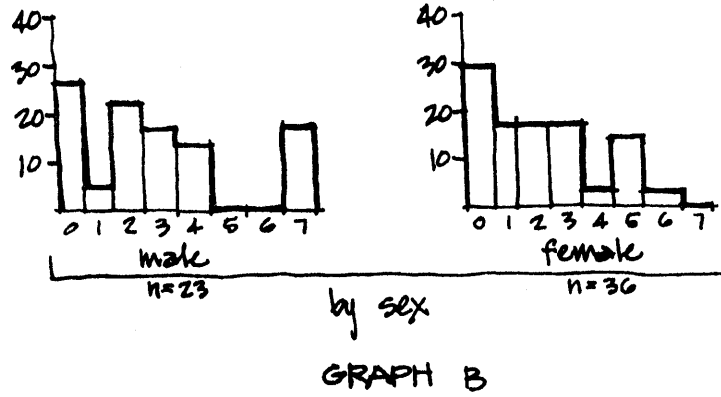
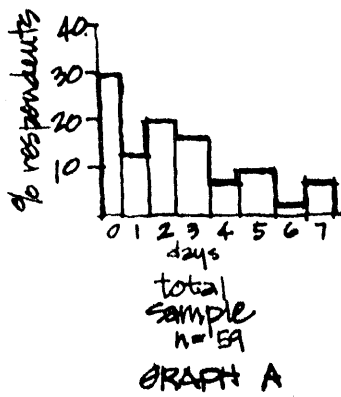
These aggregate statistics, however, do not tell the full story because they discount usage by particular groups. The data was, therefore, separated by sex and age,⁶ revealing first that men went out almost 30% more frequently than did women (men: mean number nights out = 2 3/4; women: mean number nights out = 2). When age was considered, the results of the Boston survey indicate that young people use the city more frequently at night than do the elderly, by a substantial margin:

Mean number of nights out by age of respondent:

10-19 years	3.6 nights out
20-29	2.6
30-49	2.8
50 and over	0.7

(This raises the question about the elderly's perspective that the city is used less now than in the past--it may be that their attitudes reflect the fact that they personally use the night less than in their younger days.)

The following set of graphs (Graphs A-C) show the distribution of respondents according to the number of days they had left home during the previous week:



The information from the surveys tends to sanitize the use of the night city; it neglects the users who are an integral part of the night environment, and are often considered to be the negative elements of the night city. The drug pushers, prostitutes, muggers, derelicts, and pimps were not sampled. The man that lives on the city street, the woman who earns a living there, the kid who supports a habit are all a part of the street scene -- they are to be considered clients just as the elderly, the housewives, or the teenagers.

Also excluded from the sample are the visitors to the city; tourists, conventioneers, day-trippers from the surrounding region, who come to the city to experience it for a short time, both during the day and the night. They have very special needs -- they must be able to understand the environment, where they're going, where they've been. They want to feel safe in an unfamiliar environment, and just simply want to enjoy themselves. The night city must accommodate their needs as it must the needs of the residents. The survey data does not record the extent to which visitors use the night city, but it can be assumed to be rather extensive.

The night means many different things to all these people, but possibly one of the most universal is the concept of anonymity related to the darkness. Many people see the night as a time for something different, something exciting, something perhaps acceptable only in darkness; a time in which they can wear a different hat, play a different role. This inherent quality of anonymity should be preserved as unique to the night, an important element of city life not to be redressed through creating a "surrogate day".

Activities In the Night City

Responding to a questionnaire, 60 Boston citizens discussed the night activities that they had participated in during the preceding week. Entertainment, running errands/shopping, and visiting friends were most frequent reasons for about half of the total sample. (Slightly over one-fourth of the sample had not left their homes at all during the preceding week.) Activities such as "just walking or driving", going to a meeting, employment or school were each done by roughly a sixth of the respondents each. (See Table 1.)

Table 1 :
Frequency of Night Activities

	% of Total Sample (N=60)	% of Persons going out at least once (N=15)
Entertainment	51.7%	70.5%
Run errands/shopping	50.0	68.2
Visit friends	48.3	65.9
.....		
Just walking or driving	20.0	27.3
Go to a meeting	16.7	22.7
Employment	15.0	20.5
School	15.0	20.5
Other reasons	8.3	11.4

The frequency of the activities varied slightly between men and women (see Table 2, Page 20). Men appear to go out more frequently, but, because of the limited sample, the figures should not be read as precise indicators of use. The most important point

is the natural break in the frequency of the activities (indicated by the dotted line in the table) for both men and women. The most frequent activities are non-compulsary activities (visit friends, run errands, entertainment), which were done by roughly half of the sample. The compulsory activities, those requiring a commitment to attend, such as employment, meetings, or school, were done by fewer persons. This indicates that the nighttime is most important as a time for personal choice activities, which supports society's expectations that the daytime is a time for commitments to activities, i.e. the work/rest cycle.

Table 2 :
Frequency of Night Activities by Sex

<u>% Total Sample</u>	<u>% Persons Going Out</u>	<u>% Persons</u>		<u>% Total Sample</u>	<u>% Persons Going Out</u>
		<u>Men</u>	<u>Women</u>		
60.9%	77.8%	Visit friends	Entertainment	52.8%	73.1%
56.5	72.7	Run errands shop	Run errands/ shop	47.2	65.4
52.2	66.7	Entertainment	Visit friends	41.7	57.7
.....					
26.1	33.3	Employment	School	16.7	23.1
26.1	33.3	Go to a meeting	Just drive or walk	16.7	23.1
26.1	33.3	Just drive or walk	Go to a meeting	11.1	15.4
13.0	16.7	School	Employment	8.3	11.5
8.7	11.1	Other	Other	8.3	11.5

The above responses did not necessarily indicate people's preferences or desires for night activities. In order to get at these preferences, an open-ended question asked them to state the activities that they "particularly enjoy doing in the city at night." They were allowed to respond with as many activities as they could think of, but were not prompted to add to their list. The responses were grouped into eight categories and then looked at by the frequency of the times mentioned and by the breadth of the responses (how many activities were named and in what order).

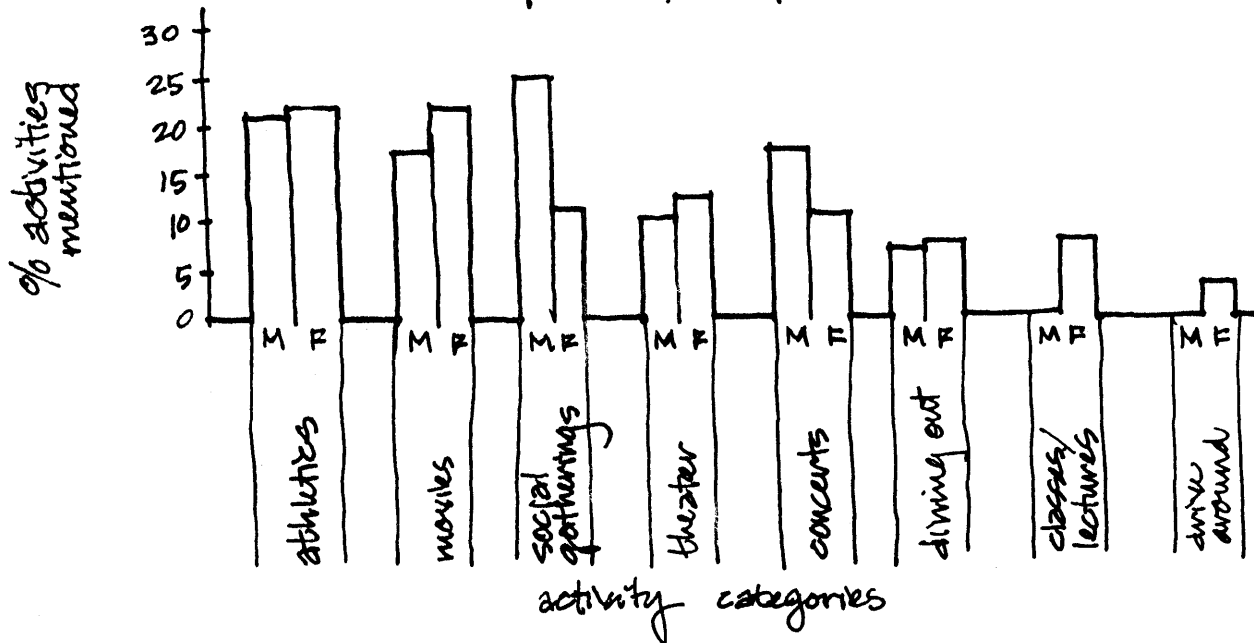
For the total sample, the "enjoyable" activities frequently mentioned were:

Athletics	21.0% of activities mentioned
Movies	19.3
Social Gathering	17.5
Theater	15.8
Concerts	14.0
Dining out	7.0
Classes/lectures	3.5
Drive around	1.7

Responses varied slightly when examined according to the sex of the respondent; the most notable shift being that men mentioned "social gatherings" twice as often as did the women. Also the men mentioned fewer different activities than did women. The following graph compares the responses by sex:

GRAPH D:

"Enjoyable" Activities Mentioned
by Sex of Respondent



It would appear that organized activities are the most popular, or at least come to mind first when thinking about nighttime activities; and that less formal or compulsory activities are less popular. This suggests that structured events would be more successful than simply providing facilities and permitting people to use them at their convenience at night.

Who does not use the night city?...and why?

More important than answering the question about who does use the night city, is the question of who does not use it...and why. These are the people whose freedom to use the city is restricted. They must be considered an important client for the strategies to improve

the night environment.

Of the 60 people responding to the Boston interviews, approximately 28% had not left their homes for any reason during the preceding seven-day period. (See Graphs A-C on page 17.) The most significant group was the elderly, of which 62% had not gone out. Females also expressed strong feelings about a need to stay in at night, unless they were accompanied by someone or could drive a car. Both groups are vulnerable to attack, and compensate by staying in more at night.

There were a variety of reasons given for not going out at night, (See Table 3 on page 24), the most frequently mentioned response was simply that staying at home was preferred. Since this is a very general statement, it may infer a number of actual reasons, such as the need to relax from the day's work, the interests and attractions of home life, or the lack of viable alternatives offered by the city. The decision to stay at home or to go out is based on the benefits or enjoyment anticipated versus the potential costs or risks involved; unless activities of interest are provided, and the potential risks reduced, the night city will not be used by these people.

Approximately 13% of the total sample (57% of those not going out at all) consider the streets to be too dangerous to be used at night. (This figure is not to be confused with the number of persons who express a fear of the night city, but do go out on a restricted basis. Since people normally answered more than one of the responses, it is obvious that there is seldom a single hard-and-fast rule as to why an individual remains in at night. It would appear that there are

different thresholds of fear and that the incentives for leaving home at night must outweigh the risks involved.

Table 3 :
Reasons for remaining home during
hours of darkness

	Total Sample		Sex				Age Over 50
	(1)	(2)	Male		Female		Stayed at Home
	Total Sample	Stayed at Home	(1)	(2)	(1)	(2)	
Physically handicapped	5.0%	20.0%	4.3%	20.0%	5.6%	22.2%	20.0%
Rather stay at home	18.3	73.3	17.4	80.0	19.4	77.8	40.0
Lack trans- portation	0	0	0	0	0	0	0
Streets are too dangerous	13.3	57.1	13.0	60.0	13.9	62.5	35.7
Other reasons	13.3	57.1	13.0	60.0	11.1	30.0	

The strategies for improving the night environment must attack the problem from two different directions simultaneously: greater incentives for use must be provided and those positive qualities which might provide for activities must be intensified; second, the risk and perception of risk of being victimized and other barriers to use must be reduced. Either one without the other would be an incomplete solution.

Generalizing the Deterrents to Use

The issue of why people choose not to venture into the night environment is critical; it is a pressure point to be dealt with in strategies for improving the night city. The statistics offer some insight into the reasons, but reflect a narrow approach to the problem. From open-ended interviews with a large number of persons, and through

observations of behavior in the context of the night environment, there appear to be three issues of importance which affect attitudes and the subsequent use of the night city. They include the person's fear of crime, the lack of opportunities for use of interest, and unsupportive and uncomfortable settings.

1. Fear of crime.

The most frequently mentioned concern about the night environment was the fear of being victimized. Some people experience very little fear, such as the black youth who asked, "What would they want to rob me for?"⁷ Other people cower in fear, hiding behind locked doors. A 70-year old lady stated, "I used to go to church parties, out to dinner with somebody or go to the movies, but my gosh, you can't do that any more. You just have to go stay in and read the paper every night."⁸ An individual's understanding of his probability of being victimized is a critical issue in his use of the night city. Confidence in security will promote use, while fear of attack will restrict it. An important relationship exists between the "fear of crime" (the person's perception of his likelihood of being victimized) and the "actual crime rate". "Fear" is an important factor governing the decision of how to use the night city, and the "actual" situation is a source of information shaping the attitudes. The ramifications of this problem are diverse and expensive, both in terms of monetary and efficiency costs, as well as the personal anxieties which affect people's behavior. Fear in the night city is not the only problem, but it is one that is mentioned frequently and affects or creates many other problems.

2. Lack of opportunity. ✓

The activities people desire in the evening vary; it may be a knitting club close to their home, a good jazz group, or maybe just an outdoor cafe or good window shopping district. These desires vary over time, a popular activity today might be boring in a month. People's decisions about how to use the night environment are based on their understanding of the opportunities available and their desire to take advantage of them. This is the incentive aspect of the night city. A decision must be made as to the relationship between the potential risks and the potential benefits or enjoyment to be gained; the relationship determines if the night city is or is not used. Obviously, the most satisfactory strategy would attempt both to increase the incentives and decrease the risks involved.

3. Environmental information. ✓

People depend upon information from the environment to make decisions about their relationship to the environment and to other users. The night environment has not consistently provided adequate information to users; this has resulted in continuation of the traditional work/rest cycle and provision of a narrow range of functions during the hours of darkness. The lack of information deters use at night because it does not provide for the basic needs of the users and does not instill their confidence that they have enough information to make satisfactory decisions. This issue related closely with the fear of crime because people frequently imagine the worst in dark city environments, increasing their fear, and resulting in avoidance of similar situations.

These are the reasons mentioned by people which limit their use of the night city. There are, however, more basic problems which result from the restricted use of the night environment:

4. Inefficient use of resources.

As a result of the present use of the night environment, the resources of the city are used inefficiently. During the day, facilities are overcrowded and many support services must be designed for peak hour loading, resulting in extreme underuse during the remainder of the day. The unavailability of services at night complicates the problem by decreasing flexibility and increasing restrictions.

5. Inequitable social consequences.

Unfortunately, many of the problems result in an inequitable social system, in which the poor and the minorities suffer the greatest injustice and pay the highest price. The poor experience the greatest fear and subsequently have the least opportunity for use of the night city. Though the problem of social injustice is not dealt with specifically as a problem of its own in this study, it is considered as a problem resulting from the perpetuation of others.

These problems are important causes of people's attitudes and behavior in the night environment. They are often interdependent, complimenting or complicating each other. They will be discussed in greater detail in the following chapters.

Summary

The city at night is a series of contradictions, being both beautiful and ugly, receptive and threatening. It is generally considered to be the "down" time of the day, the time when the city sleeps, a continuation of the traditional work/rest cycle. This results in the city's facilities being overused during the day, and underused--but maintained--at night. This is the source of significant problems affecting people's attitudes and behavior.

Less information is provided in the night environment than in the day environment which affects how people interpret and understand the night city. This results in a more limited set of users than is normal to the day city. Younger persons are more frequent clients of the night than older persons; and men go out more frequently than do women.

Many people do not use the night city because they wish to remain at home, are not interested in the activities offered, or are afraid of being victimized. The planner and the programmer can make the night city more available by increasing the incentives for using the night city and reducing the risks. The issue of risk is particularly important for the elderly and for women; both of whom consciously program their activities according to their fear of being victimized.

CHAPTER TWO
THE PROBLEMS OF THE NIGHT CITY

The assets and liabilities of the night environment have definite effects on the lives of everyone. People have a well defined and frequently negative image of the night environment, indicating it's importance as an issue. Given the importance of darkness on the functioning of the city and people's attitudes, it is surprising that so little is known about how the night city functions and how people behave. The problems of the night city are a secondary consideration in planning and programming which attempt to make the "best of a bad situation." Creating city environments that function successfully at night should be a prime concern of city officials, planners, designers, and the citizens.

The users of the night environment, as discussed earlier, may be categorized into three groups: those consistently using the night city; those who use the night city, but restrict their use for a variety of reasons; and persons who infrequently use the night city for very definite reasons. When the restrictions are due to other than personal choice, such as from fear or lack of opportunity, an inequitable system exists in which an individual's right to freely use the city is infringed upon. It is then necessary to define the problems and seek alternative solutions which provide a more equitable living environment for all.

The problems may be grouped into five general categories; however,

they are not separate and distinct problems and are not of equal importance. Some people may feel restricted at night because they fear attack, another may remain at home because no alternatives of interest exist, and someone else may feel uncomfortable in the night environment or simply want to rest. It will never be possible to solve all of the problems of the night environment, but if some could be reduced, the city would be more livable for a greater number of people.

As discussed in the first chapter, there are five basic problems to be considered. Three of the problems directly affect decisions about using the night city:

1. Fear of crime;
2. Lack of opportunities; and
3. Lack of information about the environment and other users.

Two of the problems partially result from the restrictions created by the problems above (as well as many issues unrelated to the night environment):

4. Inefficient use of the city's resources; and
5. Inequitable social consequences.

Each problem is important and merits consideration, but may not be dealt with out of context; therefore, the strategies should reflect their interdependence.

This chapter will discuss the problems in greater detail, attempting to outline the parameters of each and their effects on people's behavior in the night environment. Not all of the problems may be directly confronted by the planners or designers; this does

not exclude the problems from consideration, but does point to the complexity of the issues involved. No group of professionals, no single organization or agency, or even a coalition of citizens will be able to affect substantial improvements in the night environment alone. It is a situation in which all actors understand the problems and coordinate activities to make the night city more available and comfortable for all.

Fear of Crime

One of the functions of a society is to make it's inhabitants feel safe, and Americans devote more of their collective resources to security than to any other need. Yet Americans do not feel safe, despite (or because of) shotguns in the closet and nuclear bombers patrolling overhead. With each decade we seem to accumulate more fears, and most of these fears seem to be a about each other.

--Philip Slater
The Pursuit of Loneliness

Anyone who has walked the streets of a large American city at night has been conscious of the possibility of being victimized. For many, the fear of attack is paralytic, forcing them to hide within the confines of their home. Morton Hunt vividly describes the source of the fears in his case study of a robbery:

...what most alarms us and most gravely damages our faith in our society is the ever present threat of some sudden, unpredictable, savage assault upon our own body by a stranger -- a faceless, nameless fleetfooted figure who leaps from the shadows, strikes at us with his fists, an iron pipe, or a switchblade knife, and then vanishes into an alley with our wallet or purse, leaving us broken and bleeding on the sidewalk.¹⁰

Street crimes -- the stranger-to-stranger crimes, muggings, yokings, street or highway robberies -- are frightening because of their unpredictability and the possibility of physical harm. Crimes such as homicide, rape, and assaults are frequently committed between or relatives and are therefore not crimes generating pedestrian fears. But the street robbery is an attack by a stranger, a person never seen before and probably never to be seen again. Although they account for only 13% of the total reported crime in the

nation,¹¹ it is one of the most intimidating of crimes. In interviews, people consistently mentioned the issue of fear as an important consideration in their use of the city at night; in most cases, it is one of the initial reactions.

Strategies for making the city more livable at night must not ignore the issue of pedestrian security. The resources of the night city are often under-used because people consider the risk of attack to outweigh the possible enjoyment of going out.

The development of an effective strategy for pedestrian security must be derived from within the problem, not from without. The causes and effects must be known and understood; how people respond to the problem, what issues are important, what alternatives are available, and how these alternatives will affect the livability of the city.

It is basic that a prime consideration must be to engender and support positive attitudes rather than to directly, and forcibly, control crime. The present model of crime prevention often acts directly upon crime, displaying little sensitivity to effects on people's state of mind. The use of multiple door locks, bars on windows, guarded gate houses, and closed circuit TV may deter potential offenders, but they also restrict the freedoms of those being protected and psychologically heighten the fear of crime. These techniques breed distrust and cynicism, and result in a "reverse prison syndrome" in which the victims are locked up by society, unable to exercise their rights to use of the city. Robert Sommer describes the result of this process:

While it will not be possible to reverse the move to ever higher levels of internal security overnight, we should at least be aware of how this affects the

American psyche. The greatest immediate danger is that, like the Los Angeles citizens denial of a smog problem or the New Yorker's indifference to Park Avenue affluence a few blocks from abject Harlam poverty, an insidious process of habituation will set in, whereby each increase in security is judged against the previous baseline rather than looked upon in absolute terms.¹²

This trend must be reversed through the creation of environments designed and programmed to provide the information necessary to allow the users to understand their situation and feel comfortable in their appraisal, the result would be a more livable and secure night environment.

Do People Fear Being Attacked?

Fear is no an uncommon emotion and is experienced for many reasons, such as those expressed by John Wideman:

We fear what we don't understand. We fear night and death, those dark layers of ourselves that rise to scuttle our well-intentioned efforts to become the better person we sometimes think we want to be.¹³

Fear is a very personal emotion, there is little consolation in knowing that you are not the only person afraid of the night city—life is still just as frightening. Everyone has tales to tell of times they were afraid and what caused the fears; these stories are an important part of the person's education and will later influence his behavior. Wideman tells of his life's cycle of fear:

When I was a boy growing up in the city, I was afraid to walk the streets after dark. Then came years in which I was fearless. I was part of the night. It could hide me, change me, free parts of me that didn't come to life while the sun shone. Now, as close to a man as thirty years have teased me, I feel the old fears returning. I listen, I read.

I am convinced the night streets are unsafe.
 Full circle. The darkness is inhabited by a
 bestiary of threatening shapes that daylight
 only partially dispels. I sleep with a
 bayonet under my bed.¹⁴

These fears are shared by many, as several surveys have shown. A Gallup poll reported that in 1968, 44% of the women would not go out at night in their own neighborhood and by 1972 the number had increased to 58%. Men expressed far less fear: in 1968, 16% said they would not go out at night, increasing to 20% by 1972.¹⁵ Shortly thereafter, LIFE Magazine published the following results of a reader response survey:¹⁶

- 78% sometimes feel unsafe in their own home
- 80% in big cities are afraid of streets at night
- 43% of families were crime victims last year
- 30% keep gun for self defense
- 41% say police protection is inadequate
- 70% would pay additional taxes for better protection

The LIFE survey distorts the true picture through self-selection of respondents, and because the original questionnaire followed an article describing people's fear of crime.¹⁷ Yet, in spite of discrepancies in research techniques, the LIFE survey reinforced the notion that fear is an issue, even if the precise extent of fear is not ascertainable.

A survey in Boston of 60 respondents drawn at random, indicated that 35% of the men and 53% of the women would not walk alone in their own neighborhood at night. (However, if accompanied by others, 74% of the men would venture out, as would 66% of the women)

Looking at the data more closely, there appear to be other factors showing a correlation with the fear of crime. The most common sub-categories are by race and age. According to the Gallup survey, non-whites indicated a higher expressed fear of crime than did whites (49% to 39%); as age increased so did fear (18-20 year olds = 24%, 21-29 = 36%, 30-49 = 37%, and over 50 = 49%); as income decreases, fear increases; and fear decreases as education increases. There are obviously many internal correlations in the results, such as the relationship between education and income. The importance of these results are the fact that the persons with the least to lose financially (poor persons and the elderly) suffer the most from the fear of crime.

It seems that peoples' fears are based on their assumptions of their vulnerability, rather than on the actual probability of being victimized. In a survey in Washington D.C., blacks expressed more fear than did whites: ¹⁸

Black men	53%
Black women	56%
White men	29%
White women	47%

But victimization rates for the four groups indicate a different ranking: ¹⁹

Black men	391 victims per 10,000 population
Black women	276
White men	64
White women	35

The comparison between the two sets of statistics is instructive: first, the black is more likely to be victimized than a white person (black male is 6 times more likely to be victimized than a white male; a black woman is 8 times more likely than a white woman and 4 times more likely

than a white man.); and second, for both races, men have a higher likelihood of becoming victims than do women, but women display more fear of being attacked. This may be a result of the precautions taken by women as a result of their fears or because men are more often on the streets, resulting in a greater exposure to the possibility of attack.

One important factor seldom included in studies of correlates with fear is the residential location of the respondent. It appears to be more important in predicting a persons expressed fear than the normal categories of sex, age, and race. In a comparative study of people's attitudes and the crime rates of their neighborhoods, one researcher concluded:

To a very great extent, people take their cues from their neighborhoods of how afraid to be. Within the neighborhood, the level of fear is fairly homogeneous. For example, the age and sex of the respondent had no sizable or consistent effect on his fear of crime. Very few people living in high crime areas--less than twenty percent--were unafraid of victimization...and nearly half were extremely fearful.²⁰

In other words, fears are a function of the proximity to the problem, rather than by personal characteristics, such as sex, age or race. Although this study claimed little relationship existed between personal characteristics and fear, based on my interviews, it appears that factors such as sex, age, and race do correspond with fears, given that proximity to crime is constant.

What is the Actual Probability of Being Victimized?

Accounting for the higher crime rates in large urban areas, unreported crimes and the centralization of crimes in particular

districts, one study estimated that the odds of being victimized for a resident of a large city are 1 in 225 per year or for more vulnerable residents, 1 in 65.²¹ Ramsey Clark tends to be more dramatic in his predictions.²² He computes the probability of a black urban slum dweller as odds of one in 80 according to police reports; but assuming that only one-fourth of the crimes are reported, this means the odds are one in 20. This appears to be a reasonable prediction. But then Clark won't leave well enough alone, and continues with predictions but misrepresents his findings. He states: "The white middle class city dweller by contrast is likely to be the victim of violent crime at the rate of once every 2,000 years, while upper middle income and rich suburbanites have one chance in 10,000 years." This statement implies that, under conditions of normal daily activities, only one middle class white in 500 generations will be victimized...with those odds America appears to be a mecca of safety, at least for middle class whites! These figures, while possibly being statistically accurate, uses a frame of reference which misleads the reader -he will only live 60 years, so his odds appear to be fairly high that he will die naturally before his "turn" comes to be victimized.

The fact remains that the odds of being victimized vary significantly between districts of the city and consequently for different individuals. And it is not possible to represent the fear of residents of high crime areas with statistics. For them the likelihood is not one in twenty years or 200 people, it is a daily event that may occur if they relax their defenses. As the President's Commission points out:

A citizen who hears rapid footsteps behind him
as he walks down a dark or otherwise deserted

street cannot be expected to calculate the chance of those footsteps having a sinister meaning, is only one in a hundred or in a thousand or, if he does make such a calculation, to be calmed by its results. Any chance at all is frightening.²³

Affect of Fear on Lifestyles

People's attitudes about crimes affect city life in a number of different ways from significantly shaping individual lifestyles to costs measured in dollars, energy resources, and time. There can be little doubt that fear and crime are expenses that our society cannot continue to endure indefinitely; more viable solutions than presently exist must be developed.

Forced lifestyles is undoubtedly the most significant cost of the high fear of crime. One dramatic story of the consequences of fear concerns an elderly lady in San Francisco.

She was one of those shapeless, faceless old women who live out their lives in the anonymity of the inner city. Her home was a cheap hotel in San Francisco's Tenderloin district. Her friends were the other tenants who gathered in the lobby to watch TV. Her exercise was the short walk to a local cafeteria for meals. Then she was mugged in the street one night, knocked down and robbed, and an almost visible pall of fear enveloped her. For days she sat rooted in the lobby, suspicious even of the regulars. Finally, she retreated to her own room. When old friends tried to visit her she refused to open the door lest an intruder somehow slip in. For a fortnight, nobody saw her at all and a worried desk clerk finally went upstairs to check. There she lay, sprawled on the floor, dead for a week. The official reports said she had died of a perforated "stress ulcer" complicated by malnutrition. What she really died of was fear.²⁴

This story, though colored with sensationalism, typifies the psychological reaction to crime, especially after being victimized.

Most people will never be victimized, but the fear of the possibility affects the lives of many urban dwellers, as has been shown. It is not difficult to think of someone you know who restricts his use of the city at night because of the fear of attack. While contacting people in Norfolk, Virginia, to participate in an experiment which involved walking several city streets after dark, we found great difficulty in locating elderly persons willing to go out at night. The typical response was, "Why, I never go out at night anyway. You wouldn't want my ideas." Others, notably women, would not agree to participate unless accompanied by someone.²⁵

Through my interviews and conversations, it is apparent that people associate the thought of the "night city" with crime (referred to as the "prime crime time" in lighter conversations). The association was often a reflex reaction, as though it was something people had been taught to believe in. Yet almost invariably further discussion would reveal that they do go out at night, but are more conscious in deciding where they go, the time of day, and who they are with. Many people have developed minor security measures in case they are attacked, such as carrying their keys to scratch an assailant's face, not carrying a purse, walking down the middle of residential roads, or learning personal defense methods.²⁶

The fear of crime is a problem that is real, affecting people's attitudes about others and their use of the city, especially at night. Lifestyles are affected, ranging from total withdrawal to conscious selection of how and when the city may be used at night. The costs of these fears are high and have a far reaching effect

beyond the reports of crime rates or property lost. More important is the opportunity loss -- people hiding in their homes, afraid to learn about or use the night city because it is frightening and oppressive. The issue is real. The fears are real. The night city continues to be thought of as a dangerous situation.

Opportunity for Use

There presently exist a variety of activities at night, but, the range is more limited than during the day, the alternatives are often inconvenient and the rewards less potent than the risks. To a large degree, this is due to the work/rest cycle of society which tends to force the nighttime activities into a very narrow range of types of activities. It is also a result of the fear of attack which restricts many persons from venturing into the night city. For the night environment to again be an important time of the day, not only must the fear of crime be reduced, but alternatives for activities must be provided.

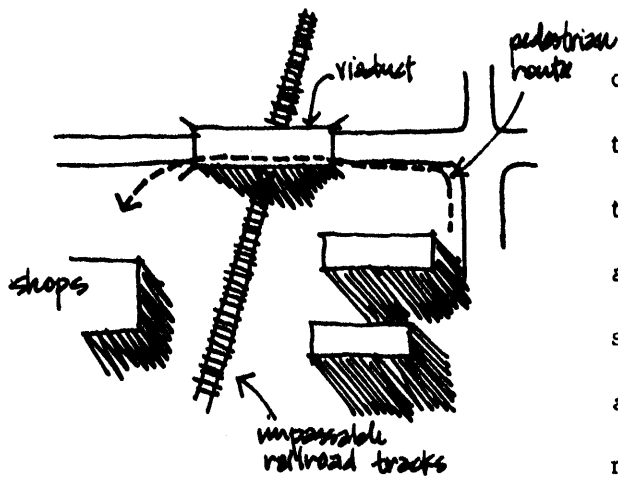
As noted in the first chapter, the range of activities that people associate with the nighttime are relatively limited. The most frequently mentioned activities of enjoyment were consistently entertainment or athletic activities, such as concerts, movies, or social gatherings; but the number of different activities mentioned was low. In an open-ended question, the respondents were asked to list the activities that they particularly enjoyed doing in the city at night. The average number of responses was only 1.67 per person (male = 1.86, female = 1.42), and the greatest number by anyone

was 4 different activities. This indicates the limited number of nighttime activities that people associate with the night city.

In a survey in Norfolk, Virginia,²⁷ 50 citizens were interviewed and questioned about the types of activities that they would like to see provided at night, and suggestions included organized activities such as concerts and social gatherings such as dances and parties.

There are a number of activities that are not done at night partially due to the lack of natural illumination, and partially due to the pervading fear of the night city; walks in parks, picnics, bicycle riding, or shopping, are some examples. It is interesting to note that many day activities which have traditionally been impossible at night are becoming more common. Lighted golf courses, ski slopes, baseball games, and tennis courts are all actively used at night as a result of the demand for more opportunity for night activities.

Although there are diverse activities provided in the night environment, they must meet certain requirements before they will be used. A basic one is that they must be accessible to the potential users; an activity which is either inaccessible or inconvenient will not be used. This problem is often critical for the elderly who frequently doesn't have transportation. One elderly gentleman, living in the Rindge Towers in Cambridge, could not go to a shopping



Ridge Towers
Cambridge, Ma.

center that was "close enough to throw a stone to..." because the walk over a bridge was too arduous. Transportation service such as a shuttle bus or a dial-a-bus program, would make the night city more available for many.

Accessibility includes, not only the proximity, but the safety of the available transportation. In interviews in Boston, many people mentioned that the transit systems reduce their service at night and it is less convenient. However, a more frequent complaint was that the waiting areas for transit stops, especially bus stops, are dangerous and thus the systems aren't used at night even though there may be an activity of interest.

Night activities are often more expensive than day activities, and many of the free day activities are less available at night-- such as bike riding, sightseeing, or even walking through a park. Establishments such as restaurants, theaters, and bars raise their prices in the evenings. Free night activities, such as the Hatch Shell Concerts in Boston or the "Concert in the Park" series in New York are attended by thousands of persons seeking evening entertainment. The expense of night activities is particularly important to persons with low or fixed incomes or large families. Therefore, programming the use of the night city must consider the expense of

the activities and transportation convenience and safety.

The incentives offered in the night city are outweighed by the assumed risks of being victimized in the night environment. It is equally as important to provide opportunities which people desire in the night city as it is to reduce the risks of attack at night. People need both the opportunity for use and safety in the night environment before the night city will become more livable.

Collective activities are not the only use of the night city that should be considered. The fact that the city winds down from its daytime bustle, with less noise and commotion is an important aspect, one that may often lead to private activities aimed at withdrawal from the forced socialization of our cities. A quiet evening spent on a porch reading or walking in a quiet neighborhood are often important nighttime activities. The special attributes of the night -- the quietness, the coolness of a summer's evening, or the introverted warmth of the darkness -- are often neglected in our cities; they must also be a consideration in creating more successful night environments.

Environmental Information ✓

At present, the night city does not provide adequate environmental information to engender the users confidence in his ability to understand his setting. Orientation in the city may be lost at night because landmarks are hidden in the darkness, street signs are poorly illuminated, and information about others must be assumed based on the limited environmental information available. This undermines the user's confidence in his ability to read, to understand,

and negotiate the night environment. Grady Clay, editor of Landscape Magazine, commented that he quit traveling at night because of the lack of information provided by the environment.²⁸ The statement illustrates the existence of the problem, indicating that it is a ✓ critical issue in city life.

The quantity and quality of the information that is available to the user of the night environment is extremely important in ✓ creating either a positive or a negative situation, i.e., one that he will want to return to or to avoid in the future. This becomes a critical issue in discussions about crime prevention through environmental design, because much of the information with which an individual must make a decision about the safety of his situation is provided through the environment. Poorly illuminated areas withhold ✓ information about the situation and thus create an undesirable setting. The present concept of flood lighting the area is an attempt to provide the necessary environmental information, but it ✓ brings with it other problems.

Therefore, the point is not simply blanketing the setting with light, but selectively determining the important and necessary ✓ information and presenting it in the most effective manner. It must be determined what information is important in given situations, ✓ who the users of the information are, how they may be expected to react or use the information, and what methods of presentation are the most effective and efficient. It is unrealistic to propose a set of solutions capable of solving the problems of information dissemination for all situations because of the diversity of factors

to be considered. The needs of downtown Las Vegas are different than the needs of Harvard Square in Cambridge, even though both are entertainment/commercial districts; and the users of streets in an inner-city ghetto have different needs than those of the suburbs. However, it is possible to generalize the factors of importance, and use these in developing appropriate solutions.

A significant problem with the presentation of information in night settings is the "legibility" of the environment, defined as comprehensible, relevant environmental information that is presented in a manner consistent with the needs of the user. This is a basic goal of all environments attempting to support comfortable activity, but during the hours of darkness, it is particularly critical.

It is important to understand the shift in perceptual clues from day to night. During the day, surfaces, colors, textures, outlines, foreground/background relationships all are important. At night, all of these no longer serve to define the environment; points become critical: flashing lights at the tops of high buildings, streams of headlights, points of illumination along the streets all leave much to be filled in by the viewer. Much like a "connect the dots" game, the user of the night environment must use his imagination and his experiences to interpret much of the city at night.

Inefficient Use of Resources

An important problem created by the present use of the night city is the inefficient use of the city's resources, both physical and social. Buildings stand vacant at night, yet they are heated or cooled

and often lighted. Parks are empty, even though people want to stroll in them. Transit systems close because people have nowhere to go or the stations are considered unsafe. These are not only inefficient uses during the hours of darkness, they also represent costs during the day: traffic arteries are overloaded during "rush hours", shopping districts are unpleasantly crowded, and the built environment is designed for maximum capacities.

These inefficiency costs result in wasted energy resources, needed to maintain the city during the hours of darkness, when it is not programmed for use. Through slight restructuring of the programmed schedule, it would be possible to more efficiently use resources at a constant rate throughout the day, and thus save large amounts of energy resources which are presently wasted due to the variations in the system. The most obvious example is in the transportation network; by overloading the system during rush hours, the traffic moves at a slow, inefficient pace, wasting fuel and time. The same with the transit lines which could more equitably use their resources if their passenger loads were constant, rather than congested at some periods and empty at others.

The present system also reduces the freedoms of the citizens, who must plan their schedules to conform to society's time schedule. ✓ Personal choices must fit within clearly defined parameters -- which often result in gross wastes of time and personal energy because the city's infrastructure cannot accommodate the surges of use. ✓

These problems result directly from the work/rest cycle of society. There are obviously benefits in the present system, such as

greater coordination of communication, shorter work hours for service establishments, and some economies from consolidation of activities into one-half of the day. However, the schedule also works hardship on those persons whose work schedules are at night; their social patterns and ability to use some service facilities are hampered. This is estimated to be up to 25% of the population, constituting a significant number of persons. In cities like Las Vegas which functions 24-hours a day, service facilities, such as schools, also function around the clock to allow the family unit to live on the same schedule.

The infrastructure of the city, the buildings, transportation networks, etc., need not be limited to serving the same function at night as during the day. School buildings open their doors at nights for community meetings, some theater lobbies are used as shops during the day and for social interaction at night, churches have adult education classes at night, and even entire districts change their functions, such as the Combat Zone in Boston which bustles with shoppers and office workers during the day and street-walkers and pimps at night.

Unfortunately, it is not possible to determine precisely the various costs involved and thus permit a comparison between different systems of organizing the work schedules. Nor is it possible to determine if there is significant desire on the part of the workers for more freedom during the daylight hours and work performed during the evening or nighttime. It is however, obvious that the present system does not make efficient use of the resources and continuation

of this strategy will result in definite energy problems, much greater than the short-lived and misnamed "energy crisis" of the early months of 1974.

Inequitable Social Consequences

An aspect of the night environment that is not often considered but is critical to the functioning of a livable city is the social consequences resulting from the existing situation. As was discussed earlier, fear of crime is much higher among minorities and the poor, i.e., residents of the inner city. They fear crime because they have a higher rate of victimization, but also they are perpetrators of street crimes. The frequent characteristics of urban street crimes is young, black, male who lives in the ghetto. Sixty-five percent of all persons arrested for robbery are blacks.²⁹ The statistics lead many to classify street crimes as a trait of the particular race that is involved with its commission, that it is a "black problem." This is unjust and reflects the narrow viewpoint, or the "ten year old mentality" as referred to by Lewis Mumford.³⁰ A more accurate appraisal of the situation is:

There is ample evidence...that immigrants of many a nationality -- Germans, Irish, Poles, and Italians, among others -- had high rates of crime during their own slum periods, and that for each group the rate diminished as that people achieved acceptance and success in the society around them.³¹

A person is not an offender of a crime because of his racial characteristics; it is not his blackness, his youthfulness, nor his

manliness that leads to muggings and robberies. It is a function of his need and the particular situation in which the possible rewards of the crime outweigh the probability of punishment. This is not the interpretation of most; Newsweek appraised the situation as "...the white middle-class increasingly sees crimes in terms of black against white." ³² Already oppressed, the stigma of crime only contributes to the problems of minorities. As long as the dominant class feels threatened, they will have to maintain their domination. The most unfortunate reality of this circular situation is that the minorities suffer the most, both directly and indirectly, from the continuation of the present system.

The irony and injustice of the system is found in information about who the victims are. It is true that there is an inter-racial aspect to street crimes. As stated by the Violence Commission:

Robbery...is the one major violent crime in the city with a high inter-racial component; although about 38 percent of the robberies in the Survey involve Negro offenders and victims, 45 percent involve Negroes robbing whites -- very often young black males robbing somewhat older white males.³³

But this only tells part of the story. The blacks and the poor are the most frequently victimized; for blacks, the act of robbery is almost always done by a member of their own race. Black males are robbed in 97% of incidents by another black male and the females are victimized 96% by black males.³⁴ As has been previously discussed, the fears of the ghetto residents not only are high, but are high with good reasons; the fact that they are being victimized by others in similar situations tends to perpetuate the obvious injustice.

This is a problem of a magnitude and complexity that this study

does not pretend to deal with directly nor to consider eliminating the biases and prejudice involved. However, it is a problem which is fueled by the crime activities which occur so frequently at night in the city. If solutions, or even partial solutions, may be found to the problems of crime and fear of crime, the lack of opportunities in the night context and better information provided through the environment, these would go a long way in relieving the tensions created in the unjust situation presently complicating city life.

Summary: Problems of the Night City

There are many problems in the night environment which restrict how it is used and by whom. One of the most important and far reaching of the problems is the fear of crime, people's perception of their likelihood of being victimized. The fear is real, extensive, and expensive; it affects people's attitudes about others, breeding cynicism and distrust, while promoting bigotry and racial tensions. Lifestyles are affected, ranging from total withdrawal to conscious selection of how and when the city may be used at night. The costs of these fears are high, both in terms of monetary expenses and the loss of efficiency/effectiveness of daily functions of the city. Strategies for improving the night environment must deal with the issues of reducing crime, improving people's attitudes by reducing their fears, increasing the effectiveness of the city by allowing people to use it during both daytime and nighttime hours.

But fear of crime is not the only problem, even though it tends to complicate the others. The night city provides a limited range of opportunities for activities, and those presently offered are

often inaccessible or too expensive for potential clients. In addition, the fear of being attacked often overrides the desire for the activities offered, and the people choose to ignore the night city. The work/rest cycle perpetuates this situation by defining the broad categories as activities to be associated with different times of the day. The provision of opportunities which act as incentives for people to use the night city is a positive approach to crime prevention because it not only provides more witnesses on the streets, but because it offers incentives for protecting the night environment.

Environmental information permits the users to understand their setting and their relationship with others in it. The night city does not presently provide the quantity or quality of information required to promote the user's understanding and feeling of security. This is due in part to the lack of understanding of the night environment, what people's needs are, how they behave in different situations and so forth. To create more livable night environments, greater sensitivity must be used in determining the information to be provided and the most effective method of presentation.

A result of the lack of use of the city due to fear, the restricted opportunities, and poor environmental information, in addition to the traditional work/rest cycle of society, is the inefficient use of city resources. During the day, the facilities are over-crowded, wasting both energy and time; at night the facilities are under-used but maintained. Buildings, transit lines, transportation networks, and communication facilities are designed for extensive use during the day and sit idle at night; by providing more consistent

use of all facilities over a greater period of the day, the capacities would not need to be so large, the flow would be smoother, and the general availability of the city would be increased.

The final problem of the night city discussed is the inequitable and unjust consequences to the members of society least able to afford the problems. The poor and minorities are placed in a perpetual cycle of stealing from each other and then these actions are fuel for continued discrimination by the other segments of society. This problem is obviously of a scale far beyond this study, but it is a problem flowing directly from others created by the present use of the night environment, and is therefore mentioned.

The problems of the night city are diverse, and have far-reaching consequences. To think that a single group can deal effectively with them is absurd, but for the professionals concerned with creating more livable urban environments to avoid the issues is equally unsatisfactory. Planners and designers may affect the types of uses in the city, their scheduling and locations, and the quality and quantity of information that is presented. The politicians and bureaucrats make decisions which allocate resources and support different strategies for dealing with the problems. And the criminal justice professionals and other agencies offer support services for improving the night environment. Strategies for improving the night environment must draw on many different disciplines for solutions, and particularly, support from citizens.

There have been attempts to make the night environment more secure and more available, some have been successful, some have failed. Some of these strategies will be discussed next.

CHAPTER THREE
IMPROVING THE NIGHT ENVIRONMENT:
PRESENT STRATEGIES

Urban environments at night have been shown to be feared, underused, obtuse, and inefficient. These problems, particularly the fear of crime, are not solely problems of the night city, however the darkness complicates the problems and heightens people's perceptions of their severity and importance.

As discussed earlier, the fear of crime in the night city is a widespread concern and not one that has gone unnoticed or ignored. Quite the contrary, Americans spend billions of dollars trying to secure their cities and make them livable. (See Appendix B.)

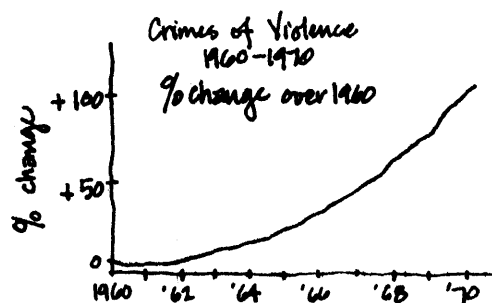
Criminal Justice Efforts

At present, the majority of the efforts to create safer environments, both night and day, is carried on by the criminal justice professions. The "war against street crime", formally declared by the federal government in 1968 with the passage of the Safe Streets Act, has proven to be a war that Americans are losing. The best summary of the situation is:

It would be difficult to consciously design a system of social control that was so inefficient as our crime control apparatus. Devoid of early preventive measures, that system emphasizes detection, fines, and incarceration. It is a remarkable commentary on our system of control that

two-thirds of those who are currently prison inmates were imprisoned at an earlier time, and a majority of those who are now imprisoned will after release return to prison.³⁵

The accomplishments of the criminal justice system -- police, courts, and corrections have produced marginal successes. It is impossible to tell how many crimes are prevented through the prevention techniques, and nearly as difficult to determine the actual amount of crime occurring. (For a discussion of the current measures of crime and suggested alternatives, see Appendix C.) It appears that crime has risen steadily during the 1960's and apprehension rates for stranger-to-stranger crimes are pathetically low, with less than 7% of all robberies resulting in convictions. The actual amount of crime is much higher than reported in the police records. For highway robbery, it is considered to be two to three times as high as the reported rate.



An example of how the present system works is found in the massive crime prevention program that began in 1968 in Washington, D.C. The criminal justice system was expanded and 3 years later the crime rate had dropped 20%. To accomplish this, the police department had been increased by over 65%, new judges and courts added, a large drug program begun, and new street lighting added³⁶ (the street lighting manufacturers have advertised the drop in the reported crime rate and that new lighting was installed, and thus claiming credit for the reduction, with no mention of the massive overall effort³⁷). But the figures are misleading; the police choose what to report. When the

police records were audited, it was discovered that more than 1000 thefts of over \$50 had been purposely downgraded to below \$50 which dropped them from the roster of major crimes. One researcher on the project added: "The police tend not even to record crime they believe they have little or no chance of solving."³⁸ Not considered in evaluating the results of the Washington experiment is the cost effectiveness of the program. The expenditure per citizen was four times the national average and twice as high as the per capita rate in 49 states.³⁹ Assuming that the D.C. program had tripled its own costs, the ratio of 300% increase in cost for a 20% reduction would lead one to question the effectiveness of the system to actually prevent crimes.

It is questionable whether the image of police presence actually has an effect on crime. In a year long experiment in Kansas City, Missouri, three neighborhoods were used to test the effectiveness of police patrols. One district received normal police protection, one received no police service other than responding to calls, and the third was intensively patrolled. At the end of the period, there was no noticeable change in the crime rates in the districts. The experiment indicates, among other things, that dependence on others to keep the peace is not always successful.

There are several other crime prevention techniques popular such as "target hardening" which attempt to make the target of the crime less accessible to the offender. This entails the use of locks, intercoms, closed circuit TV, window bars, guards and alarms. A less aggressive approach is to "run and hide", used by many who flee

to the suburbs. For those trapped in the city, locking themselves in their rooms at night serves the same purpose, but with less satisfactory consequences.

A more "enlightened", but even less successful strategy is to attack the "root causes" of crime, such as the anti-poverty programs of the 1960's. However, poverty does not cause crime -- it is merely a correlate with "many other variables such as employment, income, family stability, housing, illegitimacy, education, and welfare dependence."⁴⁰ Though the government has instituted programs attempting to solve these problems, the results on crime has been negligible. This is partially true because these programs take years of continuous effort to have a demonstrable effect on crime -- the American political system does not promote continuity of programs. All of the social welfare programs of the '60's have been killed by the Nixon administration.

Educating the public about crime prevention and their role in the process is being investigated in more cities. In Cleveland, the Impact Cities Program has produced a slide show on burglary prevention, a movie explaining how to avoid street crimes.⁴¹ Billboards, karate and kung fu classes, and pamphlets telling people how to protect themselves are common. Some of the information is good, some of it instills fear and insures restricted use ("Don't go out at night unless you are with someone." or "Don't let children play outside after dark.") Information is needed supporting positive action, rather than statements which frighten and promote regressive behavior.

Criminal Justice and the Environment

Traditionally, the criminal justice view of the physical environment has been relegated to the direct control of movement or opportunities (target hardening) or providing more street lighting. However, understanding how the physical environment indirectly affects crime was at an academic level of little practical value to the law enforcement personnel.

There is, however, a shift towards consideration of environmental design and programming as a viable alternative for promoting safer cities. At the federal level, the Law Enforcement Assistance Administration (LEAA) has funded a number of experimental projects, the most famous being Oscar Newman's work, Defensible Space which studied crime prevention in housing project designs. Their most recent and massive attempt has been a 2-year, \$2 million contract for the implementation of crime prevention concepts in private residences, schools, transportation systems, and commercial areas. The goal being to reduce crime by 50%.⁴² This attempt by the federal government, typical of their "problem solving" techniques is a thoroughly ridiculous attempt to create safer environments without understanding why they are safe. It will undoubtedly yield some results, but not equal to the price tag. It exemplifies the American concept that any problem can be solved if enough money is made available; political pressures require quantifiable solutions immediately. The result of these restrictions is RFP which allows three months for research of the concepts, and the remainder of the period for their implementation. Success is then defined in a simplistic manner

which does not seek the right information. Their goals are:

The products from research activities conducted to support the securing of total environments should be capable of being expressed in the following form:

If A is done, security in environment M is increased by T percent.

If B is done, security in environment M is increased by V percent.

If A and B are done, security in environment M is increased by $(T + V + K)$ percent.

Etc.

This will insure that useful, practical recommendations will be made to those whose safety is at risk in the environments being secured.

Their motives are undoubtedly well-founded and the attempt to develop safer environments is very necessary, but their hurried approach to claim a solution will do anything but "insure that useful, practical recommendations will be made..." A methodical, controlled, interdisciplinary study is needed with implementation of the findings and retesting, oriented toward transferrable principles rather than X% crime reduction in a short time period.

On a more pragmatic note, but burdened with similar problems, LEAA funded a \$160 million "High Impact Anti-Crime Program"⁴³ giving eight cities \$20 million each to reduce crime. Since the money was flowing through the traditional channels of criminal justice, but in much larger quantities than normal, the local agencies had an excellent opportunity to develop new strategies. They chose, for the most part, to simply expand existing programs.⁴⁴ The concept of "crime prevention through environmental design" was limited to target hardening programs and street lighting. This view of the situation

appears to be typical of the responses of the criminal justice professionals.

The efforts of the criminal justice professions have been well-intentioned but unsuccessful at creating a safe and livable urban environment. They have not reduced the fear that is so prevalent, they have not provided additional activities or given the citizens cause to assist in securing a livable city. With a para-military posture, they have attempted to promote safety through negative reinforcement (threats of apprehension and punishment, educating people not to go out at night, etc.), rather than positive reinforcement of the basic needs and desires of the citizens. The city must offer incentives for use and provide comfortable and informative environments for people to work for safer living conditions.

Involvement by Planners and Designers

Planners and designers are beginning to become more involved with the creation of safer and more comfortable night environments. In the past they have attempted to work on crime directly, using the concepts of the ancient cities which were designed for security from attacks by their enemies. Contemporary cities reflect the same technique, but now the enemies come from within. Fences, guard houses, and electronic surveillance all herald the return to the introverted city.

On a city scale, planners have not had information that they were able to translate into solutions. An example of this is the planners' response to the work of Shaw and McKay done in 1929, in which they studied the location of crime in the city and developed techniques for mapping delinquency in Chicago. They found, and tested in other cities, a gradient concept of distribution indicating higher rates near the city center and reducing as one moved toward the periphery. They found the correlates with crime to be substandard housing, poverty, foreign-born population and mobility. Planners and designers were not able to develop solutions from the information because it was too geographical in scale, and partially due to the social programming orientation.

Planners were unable to eliminate poverty or social biases; they did attempt to eliminate the "substandard housing" problem, but the results often destroyed otherwise viable communities as in Boston's West End⁴⁵ or created social disasters such as Pruitt-Igoe project in St. Louis. Ironically, the designs normally gave little consideration to the problems of fear and crime, assuming that the correlation between "substandard" dwelling units and crime rates implied a cause-and-effect relationship. If nothing else, the housing project experiments should indicate that such a relationship is superseded by other factors.⁴⁶

The problems of lack of information about methods or alternatives for improving the night environment continue, and planners and designers still base most decisions on assumptions or overly-generalized concepts. The most popular concepts describing the relationship between the physical environment and crime prevention is to

state that "more light" and "more People" are the solutions. As general principles, these have merit, however they must be greatly refined before being transferred into criteria for design solutions.

Lighting ✓

The belief that "more lighting" is the solution is kindled by the constant industry publicity, inaccurately presenting arguments which credit street lighting programs with the success of crime reduction efforts. Headlines such as "Light Fights Crime, Prevents Accidents"⁴⁷, "A Brighter City is a Safer City"⁴⁸, and "Crime Fades in the Light"⁴⁹ all give the impression that lighting is a panacea. In many cases the statements are self-defeating but their impact is direct. One article read: "Chicago, Illinois, installed alley lights and crime in these areas fell 30%, while crime in other areas rose 33%".⁵⁰ While implying the lighting successfully countered the trend, it presents a shift in the location of crime, not a reduction in crime.

There is little doubt that lighting plays an important part of the night environment and that people need enough light to understand their environment. However, the concept premise that providing higher illumination levels will reduce crime is an unsubstantiated claim. There have been no comprehensive, creditable studies to determine the influence lighting has on crime reduction. Many physical modifications benefit both the potential victim and the offender, and, as some studies have indicated, increased lighting may benefit the criminal by providing the offender with more information about

the environment and who may be present.

Lighting is not considered to be a panacea by all. One noted lighting designer stated: "I think it's a waste of the taxpayers money to put in the high intensity lighting and think it will reduce crime. The money should be spent on more police protection. Lighting doesn't do any good unless someone sees the crime." 51

The primary purpose of lighting is to provide the user more information with which to make judgments about his environment. These judgments, based on the knowledge or assumptions that he brings into the situation, determine what actions he might take. The apparent theory behind increasing the illumination levels is that by bathing the environment in light, the user may select the information relevant to his needs, as is done in the daytime. This represents an extremely crude attempt to solve the problem of information at night.

Traditionally, street lighting has attempted to provide illumination for vehicular traffic, not for the pedestrian. Studies have been done on drivers' reactions to different lighting situations, but little has been done to better understand the needs of the pedestrians. The results are obvious: arterials are fully illuminated while residential streets lie in idle darkness. The lack of consideration for pedestrian needs cannot help but present an "unwelcome" environment at night.

In a study of pedestrian lighting in Norfolk, Virginia,⁵² it was apparent that the uniformity of lighting (within a range which provides recognition of details) was more important than the overall

level of illumination. It was also observed that there is a point of diminishing returns in providing additional lighting which does not increase the pedestrian's ability to better understand the environment proportionate to added expense. These issues are important considerations when designing the night environment because they dispell the myth that "more light is better", and point to the need for providing uniform lighting levels for pedestrian paths. This also represents an area of design information that is inadequate; more research needs to be conducted to determine flexible standards to guide design decisions.

"More People"

The "more people" concept is an extremely important factor in shaping attitudes, but it's value is conditional upon several basic requirements. Like lighting, this concept may be misunderstood and misused in its oversimplified form. The significance of the concept is not found in its implied need for large quantities of users, but in the relationships between the users; it is more important that the users be compatible. This is a major concept in the design of the night environment. ("Compatible" refers to the intentions of the individual users, not in their "homogeneity" in terms of biological characteristics.) As has been discussed in previous sections, there are definite characteristics of potential victims, offenders and witnesses which may either encourage or discourage the commission of a crime. A sensitive understanding of the relationships, both in terms of their attitudes, possible intentions, and probable reactions is critical for the development of successful night environments. The

chemistry of the users of the environment is an area of knowledge which has received very little attention and there is a minimum of valid information available. The issue of compatibility is critical and will be discussed in greater length in the final section. (See page 110.)

The second consideration of the "more people" concept is that they must believe that it is beneficial to maintain the security of environment. There must be an incentive for the users or witnesses to intervene before any positive results occur. Like compatibility, the commitment to insure security is an important issue, and will be discussed more fully in a later section. (See page 124.)

There is presently not enough information for the designer and planner to adequately make decisions regarding the issues of what is good lighting or optimal intensity of use. This results in reliance on the traditional concepts with little probing of their real implications on fear or crime in a given situation. The theories are more complex than appear on the surface -- simply providing more lighting or people may serve only to complicate situations in some instances. The limitations of the theories must be understood and more valid information about their implications known. This implies research which attempts to factor out and weigh the important variables.

Concept of "Defensible Space"

The first major piece of research in the field is the often mentioned Defensible Space by Oscar Newman⁵³ in which he developed the design principles to support safer environments. Earlier works by

Shlomo Angel,⁵⁴ Gerald Luedtke,⁵⁵ and Jane Jacobs⁵⁶ had discussed specific issues and made recommendations. Newman's project made extensive use of statistical analysis, developed concepts and implemented the ideas for testing. The hypothesis was: "...That it is possible, through the provision of facilities in certain juxtapositions, to release potential behavioral attitudes and positive social relationships."⁵⁷ This is tempered with, "No group of buildings or architectural setting is likely to give birth to a particular utopian society. Isomorphism remains a happy delusion of very few architects and physical planners."⁵⁸

Defensible Space constructs four design criteria and applies them to the design of housing projects:

1. Territorial definition of space in developments must reflect the areas of influence of the inhabitants.
2. Natural surveillance of exterior and interior spaces accomplished by positioning of windows.
3. Adoption of building forms and idioms which avoid the stigma of peculiarity that allows others to perceive the vulnerability and isolation of the inhabitants.
4. Enhance safety by locating residential neighborhoods in functionally sympathetic areas immediately adjacent to activities that do not provide continued threat.

The concepts advocated were not particularly new to environmental design and psychology, but they gained power when married to the statistics. The work has been criticized for several reasons, including Newman's own desire to prove his theories and subsequent tendency to ignore important contradictory data. However, the work has been a

groundbreaking experiment and is now the bible for the field of crime prevention through environmental design. A recent LEAA "request for proposals" (RFP) makes frequent reference to the study and articles on crime prevention are founded in the defensible space concepts.⁵⁹ In my discussions with persons involved with crime prevention around the country, Newman's work was frequently mentioned. Few people had actually read it, and fewer still were making use of the concepts, but this does not lessen its importance. It is considered to be a possible alternate strategy and implementation of the concepts will follow eventually.

For planners and architects to become actively involved in designing safer environments, they must not assume that they possess the needed knowledge, but must consciously investigate the principles important to the situation. The fact is, there is unfortunately very little information on which to base decisions about security, particularly when in a nighttime setting.

"Reactions" and Crime

Each time a citizen fails to report an offense, declines to take the common sense precautions against crime his police department tells him to, is disrespectful to an officer of the law, shirks his duty as a juror or performs it with a biased mind or a hate-filled heart, or refuses to hire a qualified man because he is an exconvict, he contributes his mite to crime. That much is obvious. A further duty of every citizen is to familiarize himself with the problems of crime...⁶⁰

The call for public support for police activities is the common response to the question of how citizens can "react" to crime. Though there are a number of good community involvement programs in

operation, criminal justice fields continue to pay only homage to the concept while funneling the dollars into the police, courts and corrections systems. Programs such as the Auxillary Police in Cleveland,⁶¹ the "neighbor's home watch contracts",⁶² and education campaigns such as CATCH (Community Awareness to Criminal Habits) in Dallas⁶³ or the Multi-Media Crime Prevention program of St. Louis⁶⁴ attempt to develop the potential for assistance in crime prevention of the general public. Most of these types of programs are a result of monies over and above the normal local criminal justice funding; in other words, they result not from a high priority commitment to developing citizen action, but as a result of requirements accompanying the funding. (This is not always the case, but is reasonably accurate.) Nearly all of the law enforcement officials that I have talked with have supported the need for citizen support, but commitment to achieving it is not as high as it should be. The President's Commission found that the administrators were originally negative about the effects of citizen action, but

...when pressed they were able to think of many ways in which their organizations might help reduce crime, such as cooperating to make law enforcement easier, donating and helping in neighborhood programs, providing more and better street lighting, creating more parks with recreational programs, furnishing more youth programs and adult education, and promoting integration of work crews and better community relations programs.⁶⁵

Who Are The People Who "React"?

There are four actors involved: the potential victim, the potential offender, primary and secondary witnesses. Each in his own

capacity can affect the situation, with the cumulative and consistent responses having a definite effect on the attitudes and reactions of others.

The potential victim may react to different environmental situations based on his previous knowledge, coupled with the information presented to him. He may choose to avoid the situation (i.e., not go out, travel only by car, detour to avoid a particular block or district), submit to the wishes of the offender, or struggle. Following a crime he must decide whether he should report it or ignore it.

The potential offender also "reacts" to the situation. Based on the information he receives, he decides whether or not the potential for gain outweighs the possibility of capture. (This assumes the rational thought process on his part; as mentioned in the section discussing offender characteristics, many criminals are not rational, especially addicts with the "monkey on his back".) His information not only includes that which he receives from the environment, but the reputation of the district regarding how the people react to crime.

Citizen Action

Primary and secondary witnesses are critical for a successful crime prevention program. Since the offender selects the situation giving him the advantage, it is uncommon for a person confronted to escape or overpower his attacker. Therefore, the witnesses are critical because they are responsible for either intervening or reporting it to a secondary witness who may intervene. The "eyes on the street" concept is based on the assumption that the witnesses will

aid the victim or deter crime from occurring through their presence. The Kitty Genovese incident is a widely publicized case where many persons observed a woman being attacked, but no one offered assistance or reported it.⁶⁶ This form of "reaction" resulted in the death of the victim.

Citizen action is beginning to take a turn in the other direction. In New York City, a world of extremes, the citizens have begun intervening in crimes with vengeance:

Some of the interventions have resulted in severe beatings of the suspects, and, in one case, an armed assailant was set upon by a crowd of 100 bystanders and nearly kicked to death before the police arrived to rescue him. In a number of cases, muggers, robbers, and rapists have literally run into the arms of policemen to get away from angry crowds of witnesses.⁶⁷

One social psychologist believes it stems from a "kind of chronic collective depression resulting from a feeling of loss of control."⁶⁸ Obviously, a system for regaining control in a more orderly fashion would appear to be needed. More organized citizen reactions are found in the example of the Jewish Defense League and the Jewish Survival Legion in Boston. Volunteers, trained and armed, patrol heavily Jewish neighborhoods and are on call 24-hours a day. One member assessed their measure of success very accurately, "When nothing happens, then we are effective, then we are successful... You have to realize that there will be no visible results, and probably no long-term results of a successful patrol." That is probably the key issue of activities of this nature and the reason many fail -- the effective programs have little to show but boring duty, those that are unsuccessful have high crime rates.

An example of a different nature occurred in a residential block in Washington, D.C. The street was poorly lighted and there had been recurring night muggings. The residents organized, installed flood lights on the buildings, cut down the shrubbery and, in effect, declared their intentions to reduce crime on their street. The results were considered a success.

As it has been shown, strong citizen action can make offenders run to the police for their lives or stay away from a street on which the residents have declared their intent to secure their environment. Though not an important issue with the criminal justice professions, the consideration of how citizens react to crime is a primary issue developing a model that works. Obviously, it is much harder to organize.

Summary: Present Strategies

The strategies for improving the night environment presently center around the activities of the criminal justice professions, whose techniques are based on apprehension and the threat of punishment. The success of the system is extremely poor, showing an increasing rate of crime and only marginal returns on increased investments into the system. A primary problem with the present strategy (other than being unsuccessful at preventing crimes) is that it is a negative approach to improving living conditions. Granted, it is a necessary one because our society will never reach a state of peaceful coexistence, but the police state does not promote incentives for use of the city or create comfortable living situations. A new strategy is needed.

The strategies for affecting changes in the night environment must be broad-based, incorporating many different disciplines and agencies into project. The strategies affect a great many issues and many people and it is therefore necessary to receive input from as many different sources as possible. The problems are extremely complex and interrelated and it can be seen that attempts to solve only a single aspect of the total often result in unsatisfactory results. This reinforces the need for dealing with many issues and involving many people.

The beginning of a new strategy is found in efforts to create environments which support positive attitudes, in addition to promoting increased security. The relationship between the physical environment and crime prevention is still in the embryonic stages -- the traditional over-simplified concepts calling for more lighting and more people as the keys to safer night environments are the foundation of the discussions. This is changing due in part to the work of Oscar Newman which has proven to be a pioneering experiment, adding a new consideration for the design professions. However, Newman's work dealt with the design of housing projects, not the problems at the neighborhood or city scale. In an effort to expand the principles Newman developed, LEAA has awarded a grant seeking to extend the concepts for use in the designs for schools, residential neighborhoods, commercial districts, and transportation systems. Even though the LEAA project is too heavily weighted toward a statistical reduction of crime and too lightly on comprehensive research, some positive results should emerge.

Working toward an understanding of how the physical environment affects people's attitudes and their use of the night city, it is necessary to better understand the components of the night environment and how they interrelate to influence people's behavior at night. A vocabulary which simplifies the night environment on a variety of scales from the city to the neighborhood is developed and discussed in the next chapter; it does not provide solutions to the complex issues raised, but tries to order them, making them comprehensible. Also needed is a greater sensitivity to the attitudes and behavior of people in different situations; this is important in the development of a strategy which attempts to create more livable and positive night environments.

CHAPTER FOUR

IMPROVING THE NIGHT ENVIRONMENT:

TOWARDS NEW STRATEGIES

The previous chapters have shown the issues and problems of the night city to be real and significant, and the present strategies for reducing their detrimental effects are failing to minimize the problems or create enjoyable night environments. Operating with a negative orientation, the present strategies attempt to abate the user's risks in the night environment by threatening the potential offender and restricting movement through the city, but do little towards creating pleasant or enjoyable night environments. Kindled by the lack of environmental information and a lack of incentives to use the night city, people continue to relinquish their rights to access of the city's resources, in favor of the security of their homes and settling for the vicarious thrills of television.

The development of a new strategy for improving the night city must deal with creating an environment which offers incentives for use, which supports a secure environment, and respects the unique qualities of the night city.

The strategy for improving the night environment should be a process for analyzing the situation and generating solutions based on the individual circumstances involved. This finale section of the report will develop such a process, with the following goals:

1. To promote the individual and collective responsibility for security in the night environment.

2. To provide opportunities for alternate behavior at night.
3. To provide environmental information for decisions by the users of the night city.
4. To promote compatibility between the users of night environments.

To accomplish these goals, several approaches are required, taking into account the need for creating a comfortable night environment, rather than simply preventing crime or lighting the streets. The three models that are needed are:

- A. A crime prevention model which reduces the probability of crime and the fear of attack through affecting the attitudes and actions of both the potential victims and the potential offenders.
- B. A theory for providing environmental information by creating more legible night environments and greater awareness to the needs of the users.
- C. A strategy for generating new opportunities for use of the night city based on the needs of the potential users.

The problems of the night environment are situational in nature, their importance will vary depending upon the needs of a neighborhood in terms of the residents' perceptions and the actual problems of the night city. The importance of the issues vary between districts of different uses (such as commercial, residential, parks, etc.) and between the day-to-night use categories (continuous use, succession, evacuation and invasion.) Therefore, a system of inventorying the resources and the problems are needed to aid in

understanding the situation. To accomplish this, the major components of the night environment will be discussed in terms of how they effect attitudes and behavior.

Finally, important considerations for creating more secure and successful night environments are discussed; not as criteria with great specificity, but as general elements and factors which are important in affecting people's attitudes.

Toward a Safer Night Environment:
A Model for Crime Prevention

There can be little question that the existing strategies for creating safer night environments are unsuccessful and that the fear of crime results in the restricted use of the night city, and continuation of the inefficient use of the city's resources. The question of how to create more secure night environments is important and new strategies must be developed for dealing with the problem.

One possible approach to creating secure night environments is to promote positive attitudes and behavior patterns of the users which result in a desire to secure their environment. Obviously an over-simplified statement of a most difficult task, the process may be viewed as offering people incentives for using the night environment, and then providing the opportunities for participation in making it safe. This section will outline the theory of this model for crime prevention, showing how it evolved from the normal criminal justice approach. Then four basic elements will be mentioned and later, discussed in greater detail.

Information and experiences affect a person's attitudes, which in turn affect his responses or behavior to a given set of stimuli. Therefore, it is possible to affect a person's behavior by providing him with more or different information. People's behavior with respect to crime has a definite effect on the amount of crime occurring; options such as

choosing to ignore it, intervening, reporting it, hiding from it, or fleeing to the suburbs, all either reinforce or deter crime from occurring. Intervention and prevention will deter crime and ignoring it or hiding from it will permit it to continue. The relationships between the components are:

information affects attitudes, attitudes affect reactions, and reactions affect crime. (See figure 1.) A mirror-image of the diagram illustrates the relationship between the potential victim and offender, both making a decision according to the information received. (See figure 2.)

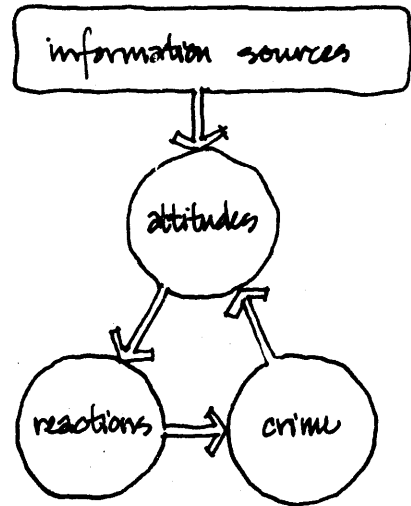


Figure 1

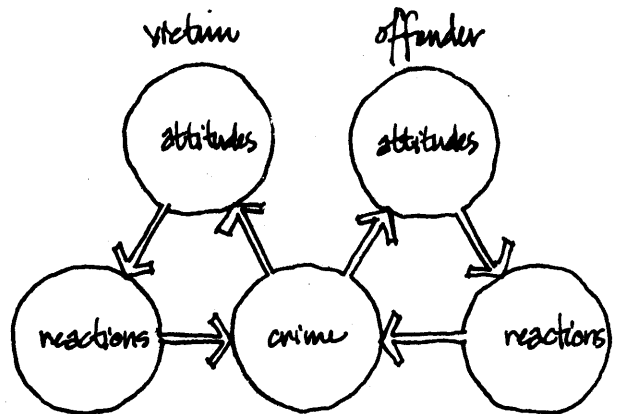
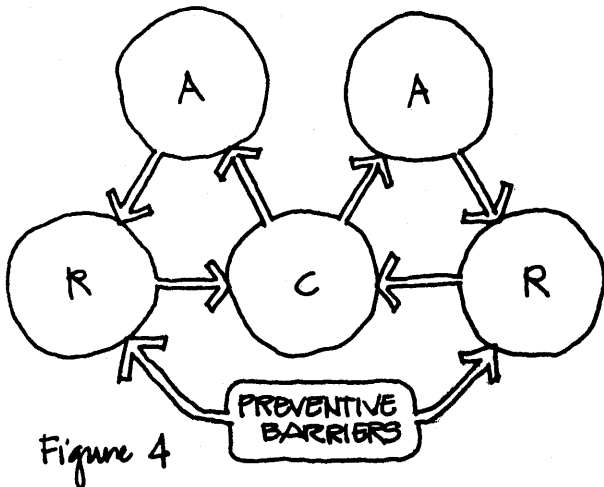
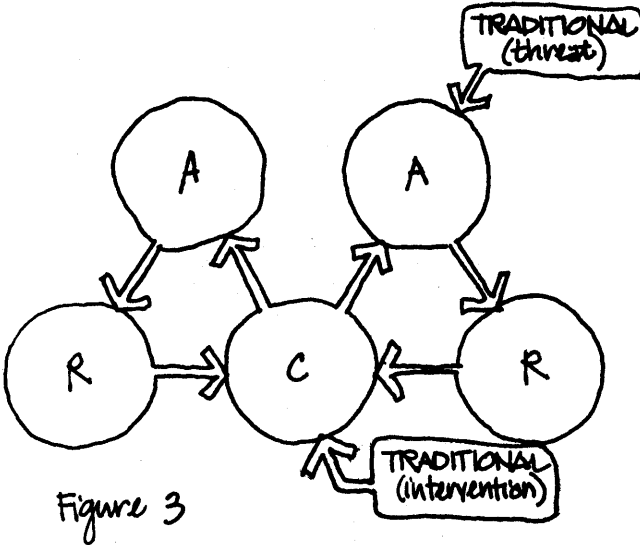


Figure 2



This simple model indicates the intervention points available in a crime prevention program. The traditional criminal justice approach acts on the attitude of the offender (with threats of punishment) and on preventing the actual commission of a crime (See figure 3). A

second approach is the "preventive barrier" technique, which controls the reactions of the actors, attempting to bar them from situations in which a crime might occur (through the use of fences, warning signs, locks, etc.) (See figure 4 .)

Both strategies use negative incentives to prevent crime; and, as the

diagram indicates, the attitudes of the potential victims are of minor importance. A strategy is needed which uses positive reinforcements and incentives to act on the attitudes of the citizens, and affect their reactions to crime. The key is to provide information to the user of the night environment which supports positive attitudes and results in actions taken to secure the night environment for his continued use.

There are a number of different sources of information which may be used to engender positive attitudes in the user, including the

environment and the other users. Experiences are extremely influential in shaping future behavior and therefore, environments which are comfortable and enjoyable (which includes both the qualities of the setting and the compatibility with other users) will go a long way in supporting a desire to protect the night environment and make it available for use.

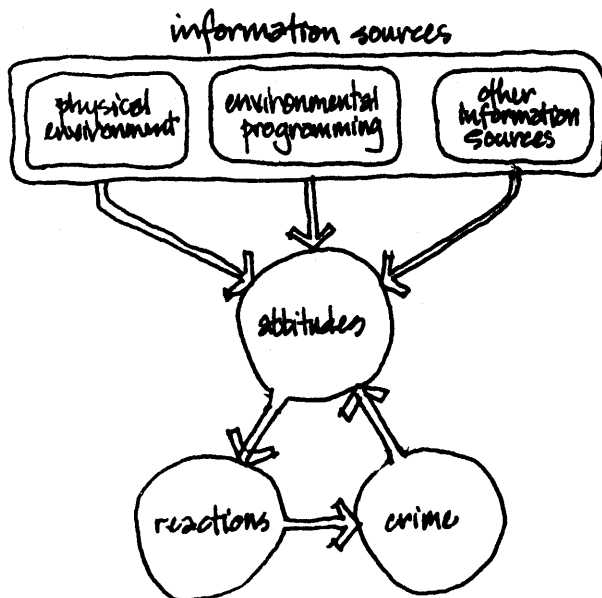


Figure 5

However, environmental information will not be influential in affecting use unless it is used in conjunction with other strategies, both those providing information to potential users and those employing prevention techniques acting more directly upon crime. Considerations given to the design and programming of the night environment therefore become a component of an overall strategy which attempts to reduce crime and the fear of crime in order to achieve an urban environment which offers more opportunities for use for all.

In light of this, the success of such a strategy is dependent upon a number of factors which provide both information and support for crime prevention activities:

1. The night city must offer opportunities of interest before people will attempt to insure its security. They must believe they have more to gain from securing the night environment than they have lost by ignoring the problem.

2. Relevant information must be provided to allow the user of the night environment to make decisions about the security of the situation and his relationship with others.

3. An individual must feel that any actions taken will be influential in securing the night environment.

4. The citizen must feel confident that there are support groups, such as the police or other citizens, who will also participate and offer assistance.

Developing a desire on the part of the citizens to create a secure night environment is complex and involves many issues other than those dealt with by the criminal justice agencies. It involves more opportunity for enjoyable nighttime experiences, it requires more environmental information to support situational decisions by the users, and support services must both encourage citizen participation and assist them.

The following sections will discuss in more detail the factors to be considered in providing environmental information needed by pedestrians and the processes for generating opportunities for nighttime activities based on the needs and desires of the citizens.

Organizing the Night Environment

The process of creating more livable night environments is complex; the problems are significant and their interrelationships make them difficult to separate. The model for a new criminal justice approach for increasing the security of the night environment separated the issues into their simplest form (the relationship between the victim and the offender) and indicated that the information used by each is a critical issue affecting their behavior. Environmental information is an important source because it informs the user of his situation -- this not only affects his present decisions, but shapes his future actions by contributing to his experiences.

Therefore, it is important for the setting to be understood -- what the major components of the night environment are, how they interrelate, and how they affect the movement and behavior of people. Defining the components of the night city allow the environment to be ordered, making it more comprehensible by simplifying the complex relationships and permitting the assets and liabilities of particular situations to be inventoried. Then, strategies for improving the night environment may be proposed which are based on the qualities of the environment and its uses.

Therefore, the following sections will:

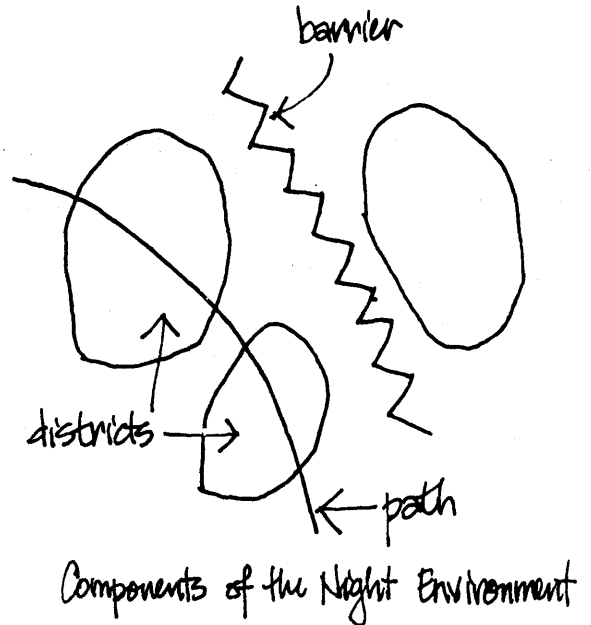
1. Define the components of the night environment and discuss their uses and their affects on behavior.

2. Outline a process of inventorying the night environment which would be a process of analyzing and understanding the qualities of a particular design situation.

Components of the Night Environment

Through discussions with people about their images and use patterns of the night city, and observations of how the city is used, there appear to be several significant components which affect attitudes and use of the night city. The components -- districts, paths, and barriers, -- are a vocabulary permitting the night environment to be organized and conceived in an orderly and comprehensible manner. They provide the terms for understanding existing situations, allowing them to be inventoried and the relationships between the parts better understood. The vocabulary may then be used in conjunction with design and programming criteria to develop more successful night environments based on people's attitudes and behavior patterns.

The most important issue in considering each of the components is the fact that they are dynamic, not static -- their use and their affect on attitudes are constantly changing. A district may have certain characteristics during the day, but be totally different at night; in fact, the same district boundaries may not apply from night to day. A path may be over-crowded or it may be deserted (and what is considered overcrowded or deserted may be time-specific). A district may be friendly during the day, but appear hostile or impenetrable at night. The use of the city over time is the critical concept to be employed in discussing the components of the night environment.



A. Districts

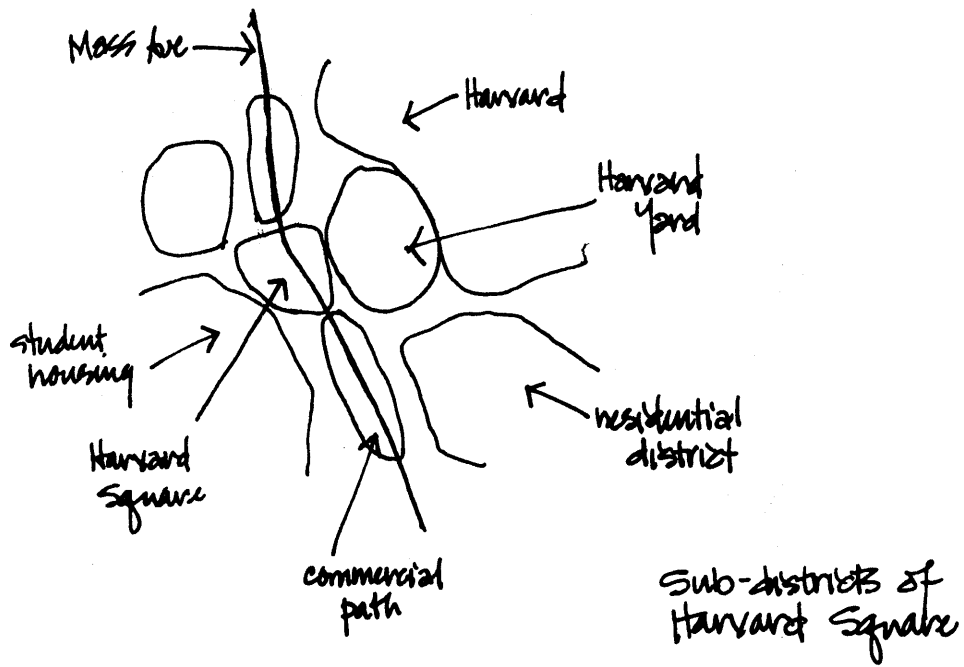
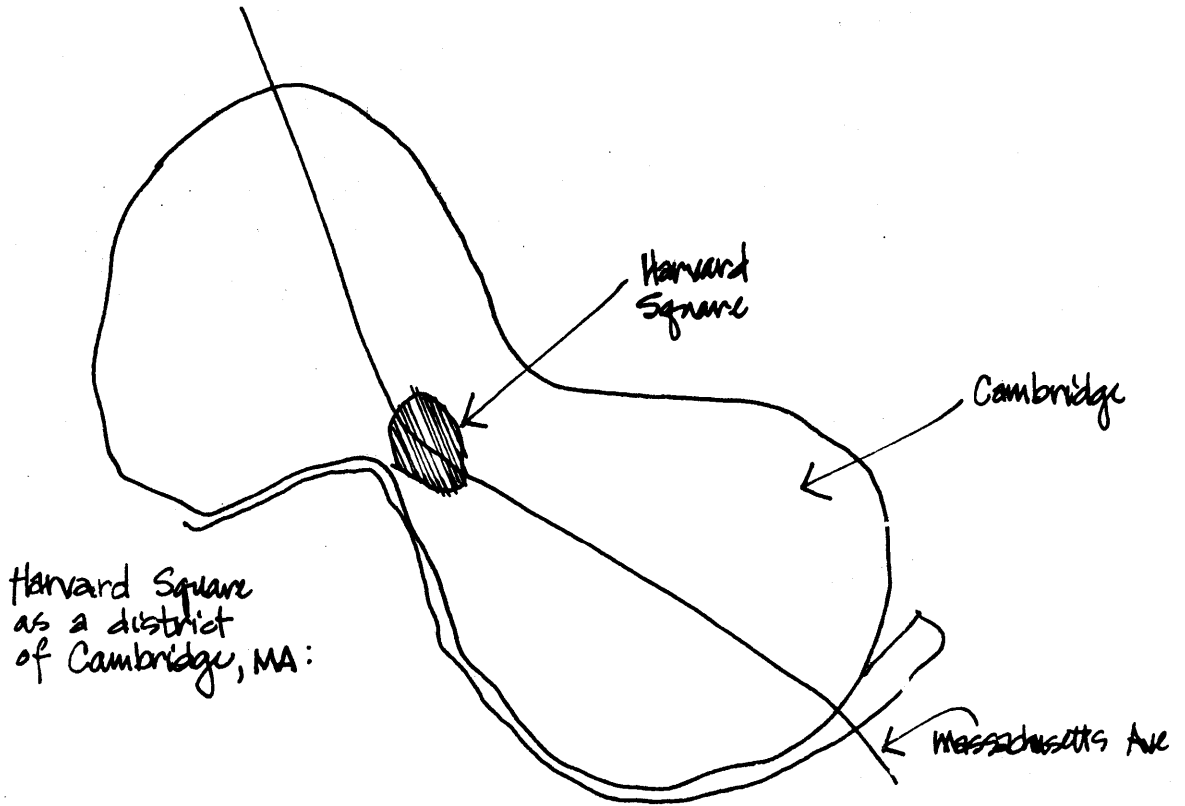
Kevin Lynch describes a district as a section of the city having a "two dimensional extent, which the observer enters 'inside of', and which is recognizable as having some common, identifying character."⁶⁹ No size limitations are placed on districts; they may be as large or as small as the person perceives them to be. A shopping area or an entire town may be thought of as a district; such as Harvard Square in Cambridge is seen as a district, as is the Town of Brookline. Districts are composed of sub-districts that shape people's attitudes and move-

ments through the area. (See map of Harvard Square on page __.) The night sub-districts may be different than those of the day because different cues are available, such as the amount of light, intensity of use, or the type of use. Due to the wide contrasts in the night environment, many more -- and smaller -- districts are perceived.

Districts at night are partially defined in terms of the compatibility between users. If an individual considers others in a district to be hostile, he will mentally define the area and then avoid it. Race and income levels are frequent criteria used when defining districts.

A second cue used to note night districts is the "energy output" of the area. "Energy" is used here in the metaphorical sense and is not measured in precise scientific terms, but by personal appraisal of the situation, based on what is seen or heard. Energy sources may be the amount of light, the vehicular traffic, pedestrians, speed of movement, number of stores open, and noise levels. High energy areas such as the Strip in Las Vegas or Times Square in New York City combine many energy sources to create a distinctive nighttime district. At the other end of the spectrum are the deserted warehouse districts, sleepy residential neighborhoods, or parks which have little activity. Based on previous experiences and judged in comparison with neighboring districts, people make determinations about how they will use the different districts at night.

Other factors contribute to the definition of districts. The amount and the type of noises -- such as people talking or cars and trucks -- may be cues signaling a response to the area. Possibly more



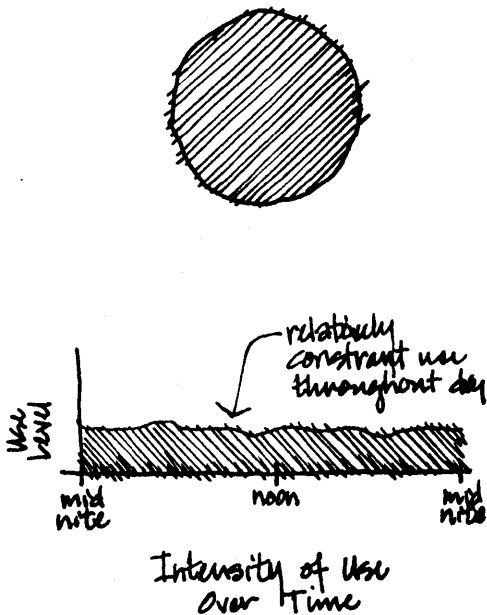
significant are districts with a lack of sound; these tend to make the lone pedestrian feel very obvious because of the importance of his own footsteps. The ability to orient oneself may also be a factor; landmarks and comprehensible street patterns promote an understanding and a confidence of the district, both psychologically supportive.

Use Cycles of Districts

The use of districts varies over the course of the day, forming a dynamic system of land uses, with different users entering or leaving districts continually. Many districts even change their functions through the day. Four different processes can be described of the daily changes in the composition and function of districts from day to night uses; these are referred to as continuous use, evacuation, displacement, and incursion.

1. Continuous use--the type of use and the compatibility of the users is constant throughout the daily cycle. There is movement in and

out of the district throughout the day, but the basic functions remain constant. Most residential districts fall into this category, as does the Strip in Las Vegas. But, while users may remain the same, as in the case of Las Vegas, the character of the place may shift. A residential district may be inviting during the day, but due to poor lighting and abundant

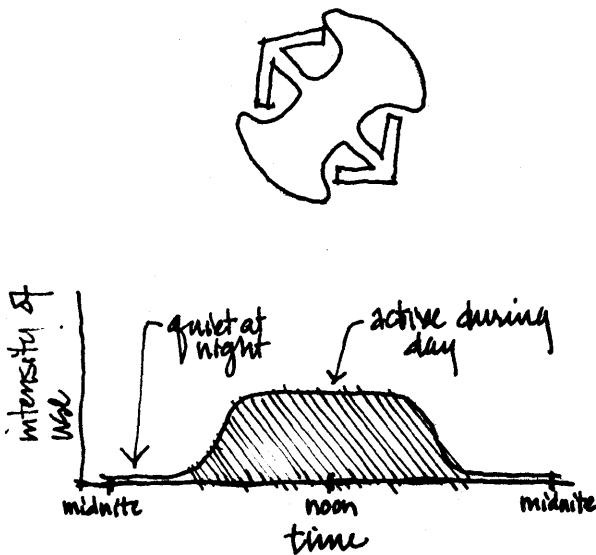


landscaping, it may appear ominous at night.

As shown in the graph the intensity of use is relatively constant, even though the actual intensity would vary significantly between districts.

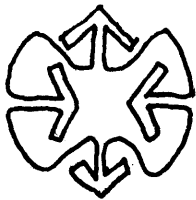
2. Evacuation--the district is used during the day but the users leave at night and are not replaced. The typical example is a downtown district, such as Lower Manhattan, in which the office workers

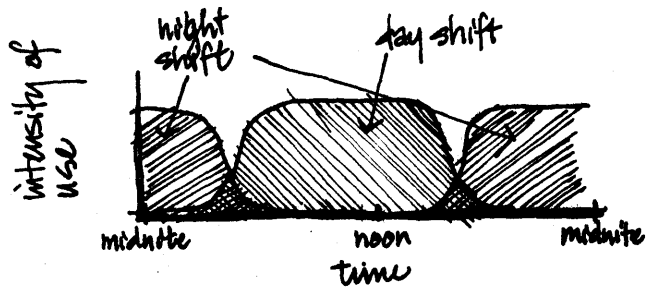
leave and the district is deserted at night and on weekends. This constitutes a large unused resource during the night, yet the buildings are heated/cooled and in many cases lighted. The area may go through a process of regeneration for the next day's activities, as garbage collection, building maintenance, etc.



3. Displacement--two totally separate groups of actors, one during the day and the other at night, use the same infrastructure. Examples

might be Times Square in New York, used by office workers during the day, and entertainment seekers at night; or the schools in Flint,

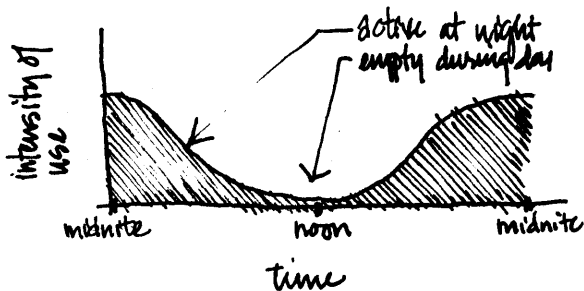
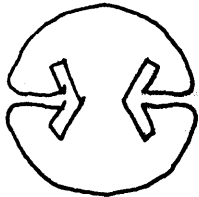




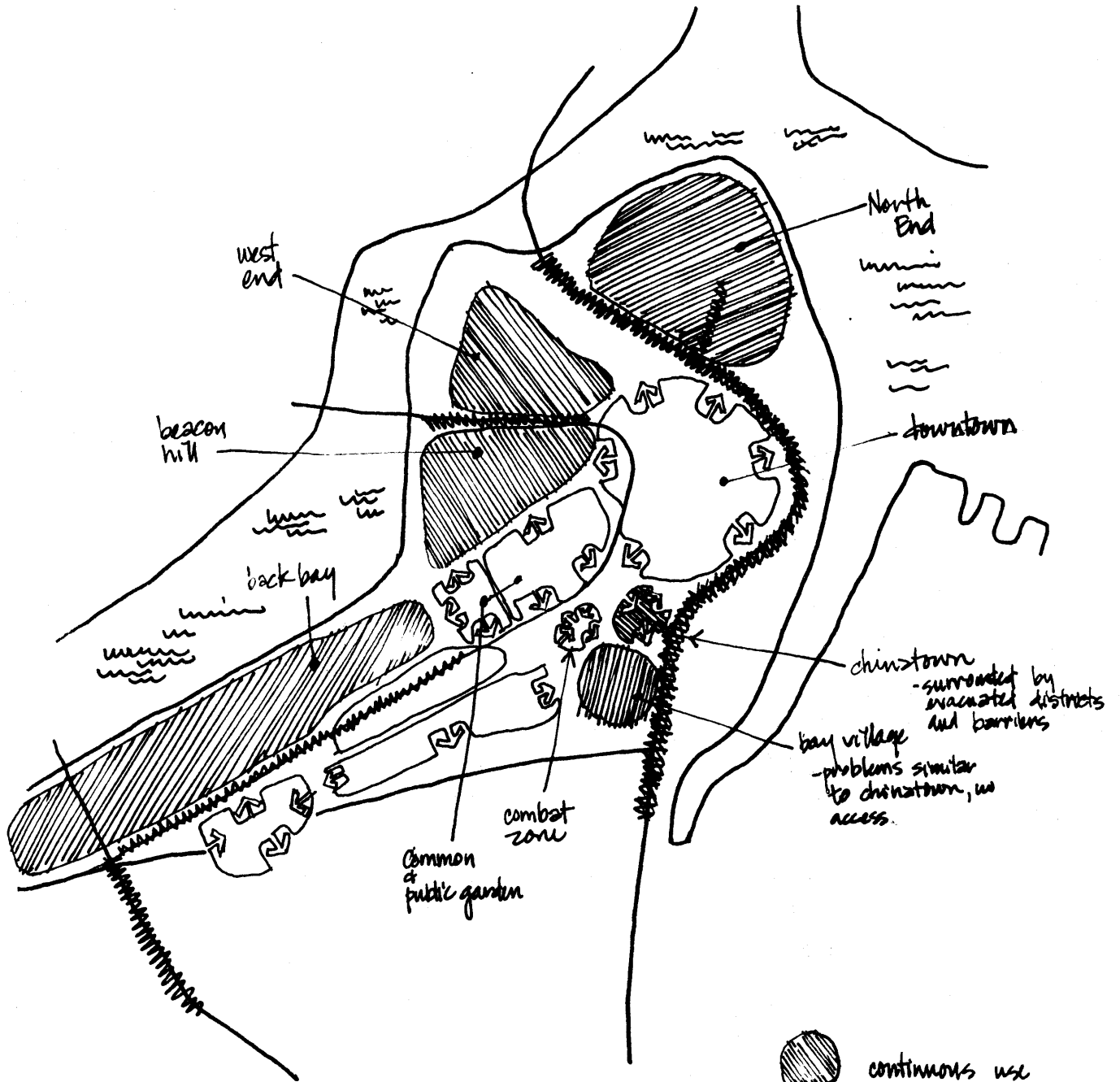
Michigan, used by the children during the day and the adults at night. This constitutes an efficient use of city's physical resources.

4. Incursion --in this situation the district is under-used during the day and invaded by night. This is the least common of the strategies, normally not considered to





be effective use of resources even though the concept is simply the reverse of the "evacuation" process. Normally found in large projects, such as civic centers, athletic arenas, or hotels that are oriented toward night activities. In this situation, the daytime may be the preparation time--deliveries, maintenance, etc.



These processes of use over time reflect a method of interpreting the use of the city on a day-to-night basis. It is not enough to discuss only how many nights a week different people go out, but this must be translated into an understanding of how the city actually functions--and then to understand what the effects of this process are. Strategies for improving areas also vary depending upon the type of area under consideration. On the page 89 is a map of



The Use Cycles of Boston Districts

-  continuous use
-  evacuation
-  displacement
-  invasion

Boston, indicating, on the city scale, how districts shift their population on a daily cycle.

As can be seen from the map, broad districts of the city have substantial shifts in population over the period of a day. The flow patterns through the city will be shaped according to how people relate personally to either the users at a particular time of day or to the absence of users. For example, the downtown district, the Commons, and the Public Gardens are generally evacuated at night. This affects the attitudes of other pedestrians who tend to avoid these areas when they may provide the most direct route; other districts are avoided because of incompatible users, such as women avoiding the Combat Zone.

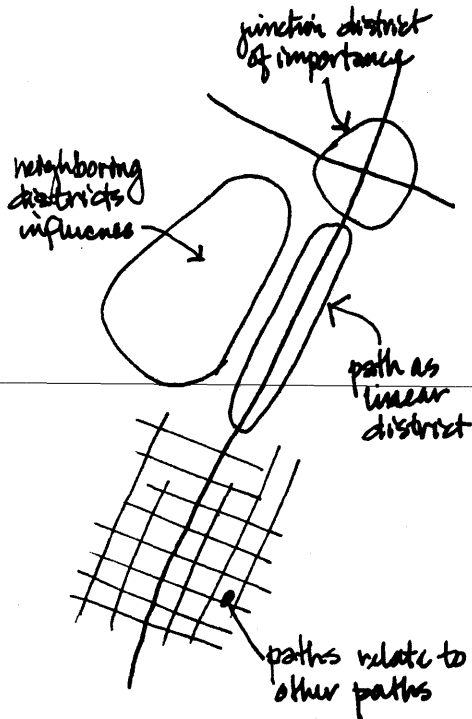
The relationship between different districts is also important. Some highly active districts may have detrimental effects on surrounding districts. Such is the relationship between Chinatown and the Combat Zone, which generates some crime in the bordering residential district. (Fortunately, the detrimental effects of the Combat Zone are experienced by relatively few persons because it is basically surrounded by "evacuated" districts. Were it to be located closer to more solidly residential districts, there would undoubtedly be greater conflicts.)

B. Paths

The second component of the night environment is "paths"--the routes of movement through the city, forming the network connecting districts. They are normally streets, walkways and transit lines. At night, they are a critical concern because they are the public spaces and should be available to everyone who wishes to move through

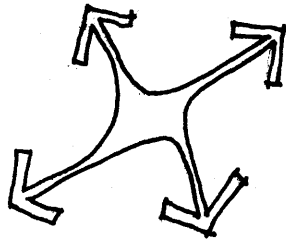
the night city. There is a greater tendency to concentrate activities on paths at night, and conversely, less tendency for people to casually stroll sidestreets, which tend to be darker and more forbidding than the major arterial streets. In some cases, the paths are perceived as linear districts. Paths may be classified according to their setting and their flow characteristics.

1. Setting: The bordering land uses, the amount of lighting, the landscaping, and physical forms all contribute to the mental image



of a path and offer cues about the apparent safety of the route. Often the path is considered to be the safe corridor through unsafe districts and people will remain on major paths when possible. A path's hierarchy appears to be determined in part by the capacity of the path (versus actual intensity of use) and the land use surrounding it. This information is then one factor used to determine the presumed safety of the path.

2. Flow: The use of the path may be discussed in terms of the "flow", inferring movement through the environment. The factors of importance in this classification:



a. Intensity of flow--the amount, type, and speed of traffic all provide criteria used in assessing a path's potential security.

b. Continuity of movement--the flow may range from inconsistent (large numbers on the path at one time, and then a period of little use, as near a movie theater) to continuous (constant intensity of use, as shopping district with all of the stores open).

c. Circulation options--paths may provide limited options of flow (such as a dead end street) or may provide options allowing the user to base decisions upon the situation.

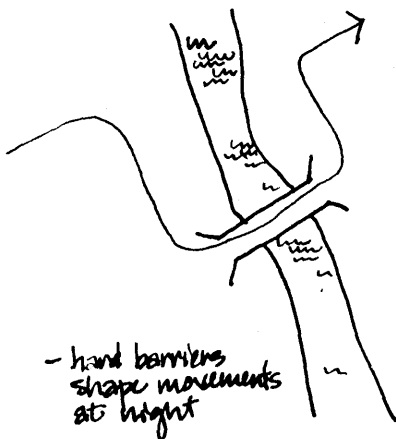
An important aspect of paths are the types of transportation available at night and their availability. The user's access to a mode of transportation that is convenient and secure will affect his use of city at night. Many paths are considered unsafe for pedestrians; this becomes one criteria for measuring the perceived safety of a route -- what mode of transportation will the user not use to negotiate the path?

Since paths are the primary public space of the city, they

provide the greatest opportunity for affecting significant change in the night environment. If a basic network of safe paths was maintained (and provision for transporting persons living in unsafe districts to the safe paths), then the availability of the night city would be greatly increased.

C. Barriers

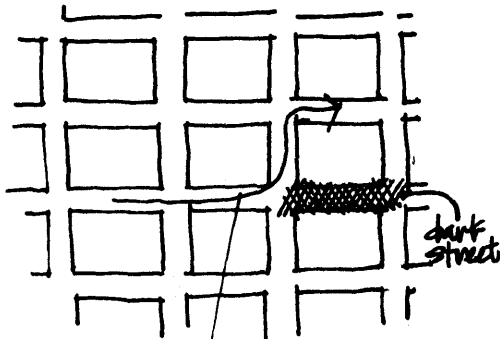
The night city includes many barriers or deterrents to the movements of pedestrians, ranging from "hard" barriers which physically restrict movement to "soft" barriers which are created by people's images of an area. The concept of barriers in the night environment is important because they may be used in both positive and negative manners; it is important to note how people react to different types to insure that the night city will reinforce positive attitudes rather than continued support of negative ones.



Hard barriers are physical deterrents, such as a river, a fence, or an armed guard. They directly affect pedestrian movement by limiting it to predetermined paths. For the most part, these barriers exist during the day also, though at night they sometimes lose their importance due to darkness, but retain their command of movements.

At the other end of the range

are soft barriers, psychological restrictions on an individual's movements. These are much more prevalent at night than during the day, partially because of darkness and a general lack of information, and partially because of the popular conception of the nighttime being the "wrong" time of day. These mental barriers may be a result of the environment providing too little information, as on a dark street, or from assumptions about the general character of the neighborhood and the other users. They may also be a result of previous experiences and/or knowledge, such as news reports about crime in a district or from personally having encountered problems.



flow is altered due to soft barrier perceived as possible risk.

Some barriers may be "hard" for some types of movements but not others. An example is a street closing which prohibits vehicular traffic but permits pedestrian flow. This is "defensible space" technique that is being tried in St. Louis and was done in Brooklyn. St. Marks Place in Bedford-Stuyvesant section of Brooklyn the center

segment of the street was closed to traffic and turned into a communal area for the residents.

According to Newman, the "residents claim that street crime has been almost eliminated..." (See Fig. 5.) An important aspect of this solution, to be noted, is that the citizens assumed the responsibility for maintenance of the project. It is cleaned every Saturday morning by different residents. The concept of citizen responsibility for the final project is important and will be referred to later.

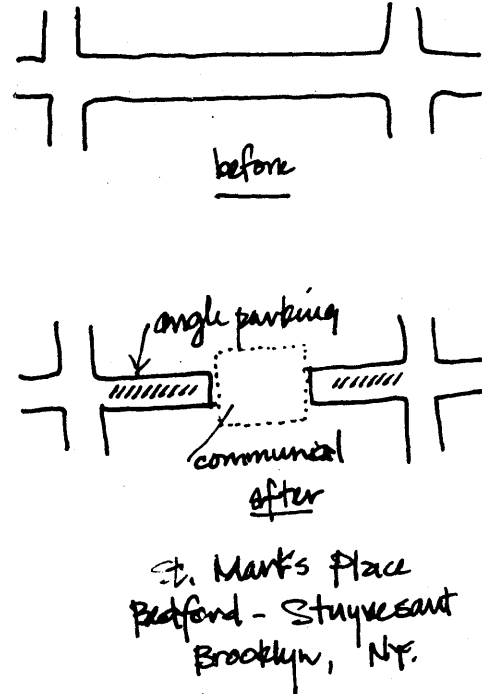


Fig. 5

The soft barriers are important considerations in the night environment because they require a decision by the user, such as whether he should go out at night at all. Since they are generally based on the information available, it is important that the environment be so designed that it provides ample information for the user to make an accurate appraisal of the security or character of the area.

The components discussed do not provide answers or solutions, to the problems of the night environment, but they do provide a method of systematically examining the setting. When used as inventorying tools, the interpretations depend heavily on the biases of the particular client being considered. That is, for an elderly person, a barrier to use might be an unlighted street or distance; for a teenager, there may be no barriers at all. How districts are defined and interpreted, how paths are used and understood will vary between clients. Therefore, it is necessary that the needs of the different clients be considered and accommodated. The most effective method of collecting their ideas is through citizen involvement in the process -- however, this is not always possible and it is therefore important for the planners and designers to understand the needs of the different groups and to be able to sensitively predict their reactions.

A second point of consideration is that a path, district, or barrier at night may very well be different than those of the day environments. A path through a park may be a pleasant stroll during the day, but a dark and forbidding adventure at night; a district may bustle with workers during the day and streetwalkers and pimps at night. People's understanding of the city -- where they may and may not go -- differs radically between day and night and this must be considered when inventorying particular situations.

A third point is that there are many subdistricts and different types of barriers in the night city. On the city scale, a neighborhood such as Roxbury in Boston or Capitol Hill in Denver are considered to be "high crime" districts and are often avoided at night.

Within the major districts there are important subdistricts -- barriers and paths that govern people's movements and shape their attitudes. For persons more familiar with the area, particular paths and blocks will be considered hazardous or especially safe and will affect their activities in the vicinity. This is important -- the night city is a composite of fine-grained districts and paths which are affected by different barriers, primarily psychological in nature, shaping people's movements and attitudes. The perception that a situation is unsafe may or may not be related to actual crime rates or the probability of attack, but the fears are significant determinants of the use of the night city.

The three components of the night environment serve to order the physical setting and to record people's attitudes about it. In discussing large segments of the city, the components deal with the general images of districts, the use patterns of paths, and real and assumed barriers. As the scale of consideration is reduced, and more concern is given to the needs of the individual user in a specific situation, the process by which he receives and interprets the environmental information becomes important.

As stated, the components do not provide the important concepts of livable nighttime settings, but are tools for simplifying the complex situation. They make it possible to better understand the existing. A set of principles is needed which explain the relationships between persons and the night city. The principles provide

general topics for consideration which, when designed and programmed into night environments, result in more secure and livable situations. The next section will discuss four principles which are important in creating successful night environments.

Concepts for Improving the Night Environment

Just as there are districts and paths that are unsafe and confusing in the night environment, so are there areas that are secure and comfortable at night. The successful night environments have certain basic characteristics which promote positive attitudes in the users. The quality of these environments is not found in the level of illumination, the number of people on the streets, or the land use characteristics of the area; it is not difficult to give examples of successful night environments which either are crowded or deserted, have high or low light levels, and various types of land uses. So, it is not simply a matter of more light and more people, that make a night environment safe and comfortable; but since there are successful night environments, there must be a set of basic concepts which combine to create its success, and if so, then perhaps they may be useful in improving other situations.

Before discussing the concepts, it is important to note several factors of the night city which affect the interpretation and implementation of the concepts.

(1) The city is dynamic; it is constantly changing, both in terms of the environmental qualities (light, weather conditions, etc.) and in the population of the area. Different districts need different policies and standards, depending upon their varying uses over the period of the day; such as the considerations for a downtown district (evacuation use) would be different than those for a residential district (continuous use).

(2) The problems of the night environment are situational,

a solution to a problem in one neighborhood may not be successful in another. It is not possible to develop hard and fast rules which apply to every situation; this should not be the goal, but rather to develop a process for creating successful environments given the parameters of the situation.

(3) There are many different clients of the night city and they must each be considered and consulted as appropriate; the city cannot be designed to "middle-class white standards" throughout, but must deal with the issues of concern to the potential users.

Based on observations of the night city and how it functions and interviewing people about their attitudes and use habits, it appears that there are several overriding considerations which are requisites for a successful night environment. Accomplishing each of the four criteria is important, but set procedures or standards will not achieve success. The solutions to the individual problems must be a result of evaluating and inventorying the situation and generating solutions. The four concepts are:

1. Provide environmental information for decisions by the users of the night city.
2. Promote compatibility between the users of night environments.
3. Provide opportunities for alternate behavior at night.
4. Promote collective responsibility for security.

The boundaries of these concepts often overlap, as do the problems of the night environment. So, while they are discussed individually, they are not so in actual practice .

A. Environmental Information

In nighttime settings, the user's ability to understand his situation and feel confident that he has received sufficient information to perform his tasks is important. Again, as in so many other aspects of the night environment, there is insufficient information for designers and planners about the actual information processes in the night environment; i.e., how people respond to different light levels, traffic characteristics, land use patterns, street widths, etc. The "legibility" of the night environment is important; that is, the ability of the environment to provide relevant information for the particular user efficiently and effectively. This is in part, a responsibility of the planner and designer, and is therefore important for him to understand the assets and liabilities of the night environment as a setting for presenting information.

Legibility of the night environment may be considered on several scales. Flying over a city at night offers a beautiful example of the form of the city; it indicates the important public spaces and establishes a hierarchy of importance. Moving quickly through the city on an expressway provides a view of neighborhoods which speaks of the type of uses and their importance. On the street scale, the pedestrian is aware of different buildings, possibly intersections being approached, and forms opinions about the safety of the street he is on. In terms of an individual's personal decision to use the night city, the lower scale situations -- those affecting the pedestrian -- are the most important because of their immediate affect. When he is walking the street, it is critical that he receive

information about direction of travel, his location in space, and others using the environment. This basic information would allow him to move through the district without confusion due to disorientation or unnecessary fear.

As will be the case throughout the discussion of concepts for improving the night environment, different weightings will be needed for different uses of the city. In this situation, an evacuation district, such as a warehouse area, would receive less priority for providing environmental information than would a continuous use district such as a residential district. This is because the one supports relatively little nighttime use, while the other maintains a rather consistent pedestrian flow and environmental information is therefore needed by more persons.

There are three factors affecting environmental perceptions in the night environment which are important because of their ability to shape a user's attitude about an environment. These are: the quality and quantity of information presented, contrast between the information source and its surroundings, and the distance and time required for recognition. All components are important aspects for cognition of the night environment and should, therefore, be design considerations which are interdependent and supportive.

1. Quality and Quantity of Information

"Information" is any environmental stimulus that may be perceived and interpreted by an individual. The importance of different sources of information varies according to the situation and the needs of the individual. Most environmental information is

received visually; when visibility is limited by darkness, the user is handicapped, unable to make definitive decisions about the environment and the result is confusion and possible anxiety. At this point, auditory information may take on increased significance and be either reassuring, as when implying the presence of others who may be supportive, or detrimental, such as a masking noise.

The specific information required by the pedestrian depends upon his situation -- his desires and objectives. An elderly person might be concerned with cracks in the sidewalk, someone else might be wary of strangers, while locating an address might be the intent of another. Even though their specific needs differ, all rely on the environment to provide pertinent information. In spite of the wide range of needs, there are basic facts required by all pedestrians concerning the general character of the environment and orientation/location information.

Information about the general character of the neighborhood includes land uses, building types and quality, and details about other users of the district. This is a function of the uniformity of illumination over the entire area, in contrast to the common practice of centralized light sources, creating bright and dark areas. Exploration of people's attitudes about street lighting in Norfolk, Virginia, tentatively indicated that the uniformity of lighting is an important factor used to determine the security of a street; it appears to support the user's confidence that he is receiving all the general information possible. Shadows indicate that some information, possibly vital, is being withheld; this reduces his confidence about the environment.

Paths have the greatest need for uniform lighting because they are the location of most nighttime activities. Residential districts often provide very inconsistent lighting with many highs and lows, resulting in a lack of confidence and security by the users. In districts and on paths that provide a range of building forms, such as a dense single-family neighborhood, uniformity of lighting is necessary to minimize the assumed hide-outs of offenders.

Basic orientation and locational information should include such things as street signs, addresses, landmarks and paths of a known direction. Moving through the night city is more difficult than during the day because much of the information that is taken for granted is lost. One resident of Denver, Colorado, claimed to have no problems with orientation during the day because of the omnipresent Rocky Mountains to the west, but became totally lost at night when the mountains were no longer visible. It is not only important to know what the direction of travel is, but also the location in the city. This is most critical in unfamiliar neighborhoods or while visiting new cities.

2. Contrast

An important element in the interpretation of the visual environment is dependent upon the contrast between the information source and its setting. During the day, contrast between information sources is dependent upon size, color, movement, location -- but because of the vast amount of visual information available, the mind must consciously and sub-consciously select the information desired. The information is non-discriminatory in that it is all

presented to the user to wade through as best he can. The night environment is different; it often provides too little information, but has the advantage of presenting it in a high-contrast fashion, increasing the legibility. It is possible to dramatically define a landmark by lighting a single building or accent a street sign or indicate which stores are open for business. Unfortunately, this is seldom done. Important information is lost because of poor design; public signs and addresses are placed in shadows, the quality of pathways are hidden in darkness, and approaching figures may not be visible. Contrast as a design consideration in the night environment, offers tremendous potential for supplying important information to the users of the night environment efficiently and effectively.

3. Recognition Distance and Time

The point at which the user receives and comprehends information is a critical aspect in shaping his attitudes, particularly regarding security. He feels more comfortable in situations in which he is adequately forewarned of forthcoming events. The pedestrian needs to know who is approaching him, or what the characteristics of the next block are. In both cases, the point is to give the user adequate information prior to when he must react, the more time that is available allows him to explore his options and select the one offering the greatest benefits.

The distance at which a pedestrian can receive visual information depends upon the illumination of the source or the reflectance of illumination from the source. That is, the apparent illumination of the information source. I will not go into the



DAYTIME VIEW. THE FEATURES AND DETAILS ON BUILDING FACADES CAN BE CLEARLY SEEN.



NIGHTTIME VIEW. THE FEATURES AND DETAILS ON BUILDING FACADE LOST.

Source:

Lam, William and Lau, Jackie
PERFORMANCE CRITERIA FOR
OUTDOOR LIGHTING (1971)

physics of light at this point, but will work with the premise that there is a positive correlation between the amount of illumination and adequate visibility. It should be noted that the relationship is not linear -- as shown in figure 6, indicating that increasing the level of illumination does not proportionately increase the visibility. This has important policy connotations for pedestrian lighting installations; there is a point of diminishing returns at which the cost of providing more illumination is not contributing significantly to the visibility.

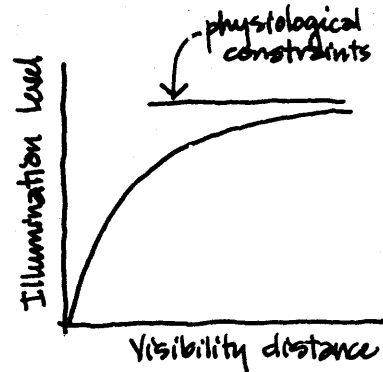


Fig. 6:
Relationship between level of
Illumination and
Visibility Distance

The relationship between the recognition distance and time permitted for reactions is a function of the speed of movement of both the user and the information source. Obviously either greater distance or slower speeds will permit the user more time for making a decision. People's attitudes about the night environment are affected by the relatively lengthy periods of indecision between first recognizing an object and being able to interpret precise details; a factor contributing to the fear of city streets. Therefore, consideration of the pedestrian's need for ample time for decision-making becomes an important design criteria. Though closely related to the illumination level, it is also affected by

the type and location of lighting, visual obstructions, direction of flow, and the contrast between the information source and the background. Illumination levels in American cities are notoriously poor (98% of residential streets and 85% of commercial streets do not have adequate street lighting, according to the lobby group for street light manufacturers.⁷⁰) It is often impossible to identify details except at short distances. This tends to reinforce people's perceptions that city streets are "dangerous".

The distances at which the details of an approaching figure are discernable may vary according to the vulnerability of the individual. However, some possible guidelines have been proposed.⁷¹ An approaching individual should be discernable at a distance of 50 feet, in some circumstances maybe up to 100 feet. At a distance of 25 feet, gross features should be identifiable and at a distance of 12 to 25 feet, facial features should be clearly identifiable. (See figure 7.)

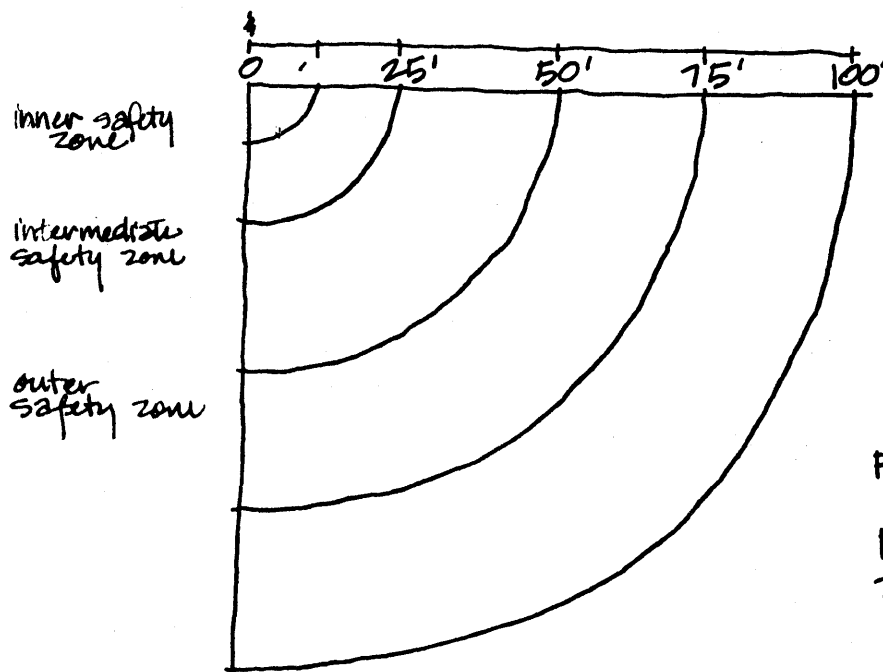


Figure 7
Perceived Safety
Zones in the
Night Environment

Summary: Environmental Information

Legibility in the night environment depends upon specific design decisions about which information is important to the user and how it is presented. Unlike the day environment, when general illumination allows the user to select from a range of stimuli, the nighttime limits the amount and type of information available. However, the ability to contrast important information against the darkness gives the designer greater ability to present the important information efficiently. This becomes important when attempting to develop environments in which the user feels comfortable and is confident in his ability to understand the situation. This would support the safety of the environment by encouraging use; illegible and confusing situations are normally avoided if alternatives are available. The night city cannot possibly become safer for pedestrian use unless people desire to use it; "legibility" does not create safer environments, but it does provide the user with the information that he needs to make decisions about his situation.

B. User Compatibility

The interaction between users is an important element of people's perceptions of the night environment. In this respect, the physical environment is providing the setting for the interaction and frequently provides the incentives for attracting people. A park, the types of stores located in a shopping area, or mass transit routes affect where people will and will not go at night. The encounters that they experience on their night trips, or the assumptions of what may happen will determine their use of the night environment. It is an obvious maxim that people will seek compatible but not homogeneous crowds. The perception of the user of his acceptance and rejection by others on the street definitely affect his comfort and his feeling of security.

The range of user compatibility is a continuum from positive to negative. Positive situations infer the compatibility of all persons present; more than being simply tolerant the people would be strongly supportive of each other and would offer assistance if needed. The composition of the groups need not be homogeneous, but should have parallel intentions at the moment. Crowds doing their Christmas shopping, a small group waiting for a bus in the rain, or neighbors may have enough similar interests that they will find cause to be protective of the other, thus insuring their own security.

Neutral compatibility situations occur when there is a lack of either supportive or antagonistic elements present. The people would not cause problems, but neither would they offer

assistance. This is the most common situation caused by a range of land uses and different individuals in an area. It appears to occur in situations in which the users have little to gain from supportive actions for others. They are anonymous, no one will accuse them of not assisting, no one will condemn them. They have no stake in maintenance of a stable situation.

At the bottom of the scale are negative situations, in which the compatibility of the persons is antagonistic, there is an apparent and real conflict between their needs or desires. These are often the high crime districts, in which the users of the environment feel they will gain from their acts of aggression. Or they may be very specialized districts, in which different objectives would be rejected or offended. Such is the case of a woman walking through the red light district of a city will be read as "available" and propositioned accordingly.

People seek user groups with compatible objectives and will avoid groups with differing desires. The elderly residents of a high rise near Harvard Square enjoy sitting on the roof and watching the lights of the city. They would also like to sit in a park, but can't because the trip would be through a hostile world, so they are content to remain on the roof with the other elderly residents.

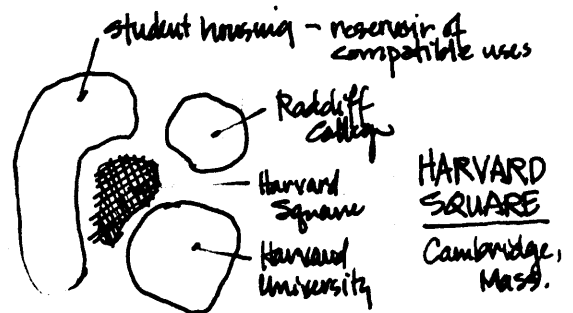
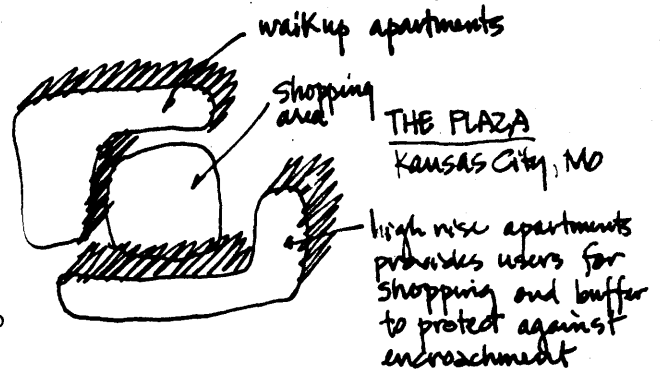
Since very few public environments are ever composed of totally compatible, mechanical or programming techniques are often used to neutralize the negative elements by contributing a positive element, such as police force. Returning to the criminal justice

model proposed earlier, it is important to promote positive attitudes by providing adequate information rather than to intervene through forceful control or intimidation. That is to say, a situation in which a stable relationship between the users is maintained through the natural compatible interaction of the users is superior to situations in which external forces or threats are required for peaceful coexistence.

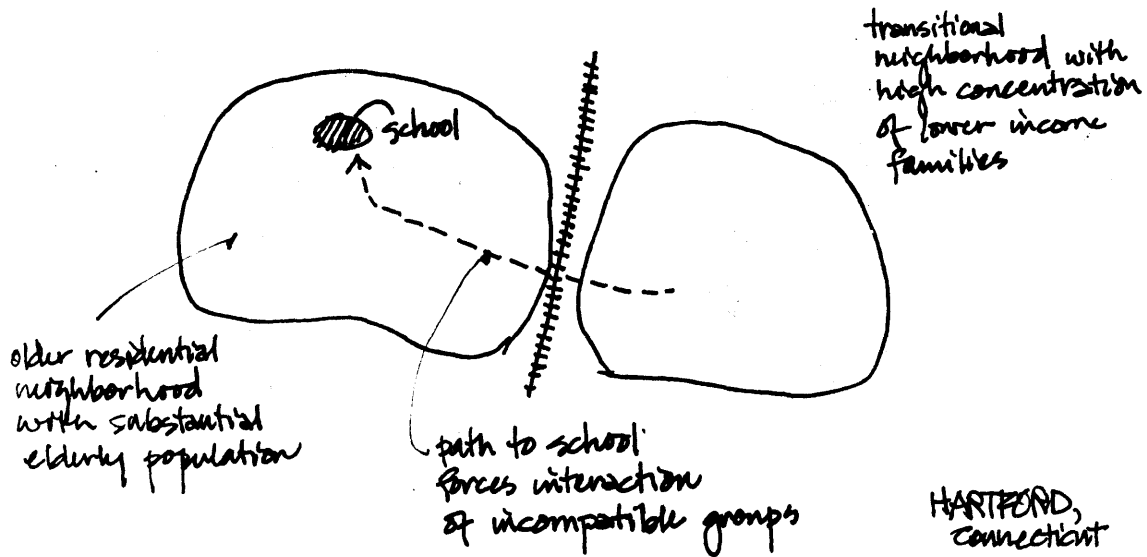
Designers and policy-makers can support compatible user groups by understanding the needs and desires of different groups, how they interact with others, what their mobility characteristics are, and what constitutes a source of compatible users. This may best be accomplished through coordinating the design and programming of the night environments, the technique is illustrated in the new shopping centers and amusement parks. Commercial districts and amusement parks have traditionally been clusters of individual businesses with loose coalitions for coordinating some basic programs. Their disorganization led to a gradual reduction in efficiency and eventually to development of shopping centers and amusement parks designed and programmed as a unified whole. The lesson to be learned from these examples are (1) the compatibility of functions (not implying "uniformity") and (2) the consideration for coordination of the activities. The physical environment is arranged to maximize the interaction between groups of similar interests and minimize groups of dissimilar interests.

A second consideration is the propinquity of compatible users; a reservoir of potential near-by users almost insures a

successful night environment. When the Plaza shopping district was developed in Kansas City, high rise housing was constructed around the periphery insuring that there would be a sufficient and compatible group of users. The district is one of the safest and most enjoyable night environments in the country because of its intense use and well-programmed activities. Harvard Square is also an actively used night environment; in this situation the activity area developed because of the large number of potential users present; the commercial/entertainment zone was meeting a need of a large group.



The reverse situation is important to note also. An attraction for one group of persons, when located in the midst of another group, and when there are natural conflicts between the two, there will be a negative and uncomfortable situation. Such is the case in Hartford, Connecticut, in which a public school is located in the middle of a residential district that is primarily elderly persons. After dark, they refuse to go out because of the young people wandering about. (See figure, next page)



Summary: User Compatibility

Successful night environments, those which are enjoyable and freely used, are built on compatible interaction of the users; this is a key issue, but not one easily controlled. In the night situation, people are extremely sensitive to others, much more so than during the day. For this reason, the relationship between the resources used at night (activity districts, paths which are intensely used, etc.) must be considered according to the particular users and their relationships with others. This is partially a function of the land uses and their relationships, and also of the programming. Districts which completely change their populations between day and night (displacement) represent a natural segregation process in which both groups seek to be with compatible users.

The issue of user compatibility is critical to successful night environments, but it is also one of the most difficult to control or to plan for. It is unfair to segregate users according to compatibility by means other than personal choice, in which case potential offenders may choose to go where they please. In this situation, the "more people" theory of increasing the activity level of a district or path has some merit. If there are enough persons considered compatible (and supportive of the others) it would then be a situation which would encourage use and maintain equilibrium.

C. Opportunities in the Night Environment

Use of the night environment is restricted for many people for reasons other than fear. For many, the night city does not provide activities of interest or the ones offered do not surpass the assumed risks involved with the night city. Many people mentioned activities they would like to participate in at night, but they aren't provided or, as was very often the case, activities of interest were not located within convenient distance from their homes or were located in "unsafe" districts. Again the two-pronged strategy is required to improve the night environments: it is necessary to both reduce the risks involved with using city streets at night and provide greater incentives for use.

Providing greater opportunities in the night city applies to both the activities available and the options for movement through the city. A variety of activities should be available, as well as different transportation methods or routes. People's interests change and therefore a selection of alternative opportunities enriches the city, increases its use, and subsequently increases its safety.

The night activities that people enjoy are diverse, though they tend to cluster into broad, identifiable groups. As shown in the first chapter, the responses to an open-ended question about the types of activities considered enjoyable in the night city were most frequently group activities which do not require a commitment. Often mentioned were movies, shows, parties, etc. The average number of responses was only 1.67 per person; however, when discussing with people the specific activities they enjoy at night,

the breadth was substantially more. It ranged from the very personal and quiet, such as a quiet walk along the Charles River, to the very structured, such as working (which allows the daylight hours to be free time). People's interests for activities in the night city, though clustering into broad groups, tend to be extremely varied in terms of the specific activities.

It is necessary to consider how to provide for the diversity of opportunities desired and to make them available to serve the changing needs of the potential users. There presently exist adequate resources in the city to support a multitude of new activities; these range from parks which, if considered to be safe, could be used for an evening stroll to buildings which can be used for meetings, classes, or social functions. These resources, combined with the desire of people to more actively use their city at night provide a setting for generating more activities at night.

Two strategies offer possibilities for providing more nighttime opportunities: the first is a process for allowing the citizens to express their needs and then implement their ideas, and the second is a scenario for rescheduling the work/rest cycle.

1. Citizen involvement: Given that the needs and desires of people are constantly changing, what is needed is not a solution to a problem, but a process through which the citizens may define their goals, develop the concepts, propose solutions, receive funding, implement their ideas, and then be responsible for the continued maintenance of the solution. An established and permanent agency is needed to serve as a clearing-house for the citizens, directing

them to the proper agencies, locating funding sources, providing seed money and resource staff. They would serve as a catalyst for citizens and government agencies. The clearinghouse function might serve under the office of the mayor or possibly function as a citizens non-profit organization.

For the theory to work, there must be a willingness on the part of governmental agencies to support the citizen involvement. The citizens must know that there is actually an open door for their ideas before they will contribute their ideas and energies. The citizens would be obligated to accept responsibility for the implementation of their ideas; the construction of a new community center or the formation of a night school for elderly people or a citizens patrol for neighborhood security would be maintained and coordinated by citizen organizations accountable to the funding organization and the legislative branch of their government. This is necessary to insure their commitment to the process.

Allocating greater responsibilities to citizens for generating ideas and implementing them, is not new and it is not a panacea for the problems of the night environment. However, there are values to the proposal beyond simply providing citizens with an alternative for implementing their ideas. It would contribute to the social life of the community through the interaction between the people; and it would provide a basis for future community action programs, which might deal more specifically with the fear of crime or the lack of night opportunities. And most important, it would offer the citizens an opportunity to take positive actions in

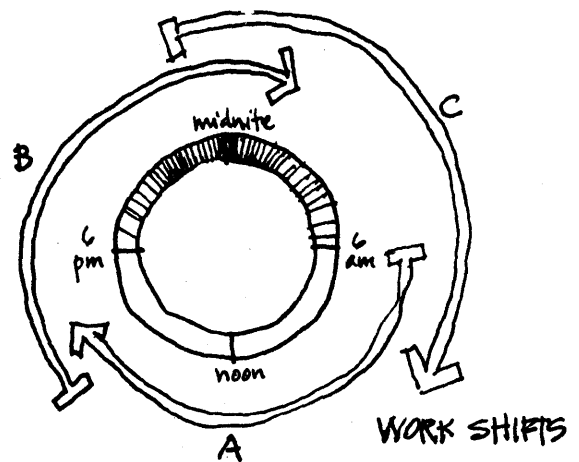
improving their neighborhoods.

The second concept involves greater changes to our social organization, but indications are that it may not be as unrealistic as might first appear. The scenario calls for a rescheduling of the work/rest cycle:

2. Scenario: A New Schedule

The daylight hours offer greater flexibility of choice than do the hours of darkness, but the work/rest cycle of society requires most employment to be during the day. However, most of the jobs are performed indoors and most positions do not require extensive extra-office communications, eliminating the need for simultaneous work schedules. Therefore a work schedule could be developed which provided greater freedom of choice, greater use of present resources, allowed for the necessary communications, and accomplished the same quantity of work. The following scenario would accomplish several of these goals.

Beginning with all government offices, work shifts would begin at 6 A.M. and would be 10 hours long; the work week would be 4 days long with a 3 day break. Work teams would be organized to provide service to others at least from 6 A.M. to midnight with ability to provide 24 hours of service in the future. Overlap of shifts would provide the necessary inter-office communications between teams. Members of the teams could rotate shifts as long as all of the primary functions were coordinated within the agencies and between other organizations.



Primary decision-makers would be on one shift to provide inter- and extra-office communications with others.

Service facilities, such as restaurants, and shopping facilities, would be open during this period also. In the beginning of the program, the government might have to support certain key facilities to entice them to provide services.

The desired result would be for all functions of the city to be performed 18 to 19 hours a day with smaller staffs on duty. The accomplishments of such a program might include:

1. More efficient use of the city's physical resources because of the smaller staffs on duty and staggering the work shifts, such as less congestion and more efficient flow through the city. At present buildings are lighted and heated/cooled while standing empty, time and energy are wasted in traffic jams caused by overloading the systems, while at night subways and buses run empty. These could be eliminated through staggering the demand.

2. The use of energy and the wasting of the natural resources needed to maintain the city during the hours of darkness is high when compared with the limited use. As mentioned, maintenance of buildings, transit systems, and communication facilities, coupled with the excess waste during the times when the systems are overloaded, result in an inefficient system. Greater consistency of use through staggering the shifts and reducing their sizes would reduce energy waste

3. Greater flexibility for the workers would be provided through staggering work schedules throughout the day. Since the daytime hours offer greater flexibility for activities, it would be

beneficial to allow people the option of using this period for personal activities, while working during the hours of darkness.

4. The increased use of the night environment would create a situation of natural surveillance by the workers and those moving through the city. The increased activity would promote a safer environment through increased use.

Obviously such a scenario will not be soon in coming, but none the less, it offers opportunities missed in the present system. Trends, as seen in the all-night supermarkets, lighted ski slopes, and longer hours of shopping centers, indicate that it is not unreasonable to anticipate that it will eventually replace the present schedule.

Summary: Opportunities in the Night Environment

Opportunities for structured and non-structured activities in the night city are limited due in part to the traditional work/rest cycle that views the day as a time for work and the night for entertainment and rest. Coupled with the lack of natural illumination and a high public fear of the street crimes at night, the city provides limited opportunities at night. This results in a relatively limited use of the night city (compared to the potential it offers) which means resources stand idle, transit systems are underused, and most importantly, the probability of street crimes increases due to (1) fewer persons on the street which reduces the possibility of witnesses, and (2) decreases people's incentive to secure the night environment because they don't want to use it anyway.

The process for improving the night environment must include both reducing the risks involved and increasing the incentives for use. To increase incentives for use, a program is needed for instituting the activities of interest for particular clients when and where they want them. At present most nighttime activities are "pay-as-you-go" and are thus a function of the supply-demand market. There is a need, however, as indicated by the large numbers of persons who attend the various park concerts and street carnivals throughout the country. There is a need for a process through which citizens may mobilize and express their interests, seek funding and make use of existing facilities which are normally underused at night. One possibility for such a system is a clearinghouse, either a part of the local government or a non-profit citizen's organization, which can collect citizen ideas and direct efforts to locate funding and facilities, negotiate with the agencies involved, and generally cooperate with the citizens in providing the activities and resource they desire. This system would not serve only to provide greater opportunities but could function as a base for other community action programs, including improving the physical environment and crime prevention efforts.

A second proposal, of a long term nature, would be to reschedule the work/rest cycle of our cities to allow them to function throughout the day. The theory is solid and is being instituted very slowly at present, as seen in longer hours of grocery stores, shopping centers, and the lighting of golf courses and ski slopes. The results of such a process would increase the

intensity of use of the city throughout a greater portion of the day, it would support increased security of the night city by increasing the activity on the streets plus staffing buildings during the hours of darkness, and it would allow greater flexibility for individuals to schedule events by opening up daytime activities.

Not all districts of the city have functions which would support day-round activities, as residential areas often need the nighttime as a quiet period, therefore consideration must be given to:

(1) the type of dynamic use programming of the district of path and construct policies around the particular situation.

(2) the relationships between the districts and paths which are designated as "day-round" functions and those which serve a different schedule.

Providing greater incentives to use the night city, whether structured or unstructured, is an important strategy which would have a beneficial effect not only on the personal lives of the citizens by making available more opportunities for varied activities, but increasing their motivation to secure the night environment and maintain its safety.

D. Collective Responsibility for Security

Earlier discussions indicated that the criminal justice approach to reducing street crimes and fear of attack are presently unsuccessful; both crime and the fear of crime were shown to be increasing and their affects on the lifestyles of urban dwellers is significant. "Crime prevention" implies that efforts are taken to affect the crime before it occurs; the present criminal justice system spends a great deal of effort and expense in dealing with the crime after it occurred. (Only rarely do the police intervene in the actual commission of a crime.)

Therefore, a model for crime prevention was proposed which was based on influencing people's behavior through providing adequate information about their situation and by offering opportunities for use which were directed toward satisfying their needs and desires. The new model of crime prevention is less concerned with creating situations in which witnesses are called upon to actually intervene in a crime; instead, it seeks to create situations in which people display their desire to secure the city, and thereby reduce the opportunity for crime to occur.

It is, however, not practical to assume that simply providing more legible night environments and increasing the diversity of night activities will have a substantial affect on reducing street crimes and increasing the availability of the night environment for citizen use. For a movement toward creating more secure night environments, it is not sufficient to simply light the area and increase

visibility and assume that people will accept responsibility for preventing street crimes. For such a situation to occur, Newman cites five conditions that must first be met⁷² :

- A. The extent to which the observer has a developed sense of his personal and proprietary rights and is accustomed to defending them.
- B. The extent to which the activity observed is understood to be occurring in an area within the sphere of influence of the observer.
- C. Identification of the observed behavior as being abnormal to the area in which it occurs and therefore warranting response.
- D. The observer's identification with either the victim of the property being vandalized or stolen.
- E. The extent to which the observer feels he can effectively alter (by personal or collective response) the course of events being observed.

In terms of the strategies which may be employed, there are three separate aspects to behavior which may be affected to varying degrees through the planning and programming of the night environment:

1. Background information: information brought into the situation based on previous experiences, education, biases, etc.; the individual must have a conception of his "sphere of influence" and be willing to defend it. He must feel that he has something to gain from attempting to secure the environment; and he must believe that he is either capable of intervening personally or that there are support services which will assist.

2. Situational information: the setting for crime must come under surveillance, and in the case of an actual crime, it

must be witnessed. Surveillance is a function of the level of illumination and obstructions to view.

3. Reaction to information: following reception of the situational information the individual must decide how to respond; the response affects experiences and education which will be carried into future situations as the "background information" -- it is therefore important in establishing a pattern of citizen responses toward crime prevention.

Theoretically, by affecting the background and the situational information, it would be possible to affect the reactions to crime and subsequently the actual crime rates. These are possible pressure points for increasing the collective responsibility for security.

1. Background information: This is the information that the person brings into the situation; the key issues are:

- (a) A defined "sphere of influence";
- (b) An incentive for protecting it; and
- (c) A belief that his actions will be supported by others.

Defining the sphere of influence will vary according to the situation. In a residential district it may be a simple matter of physically defining the territory which is controlled by the person. Newman's study found this to be an effective method of crime prevention:

...physical subdivisions, if clearly defined and related to access paths, amenities, and entries, encourage occupants to adopt proprietary attitudes and to exert potent territorial prerogatives which serve as natural and significant deterrents to crime.⁷³

In other situations, this problem is less easily solved. A person walking through a strange neighborhood is not able to define his territorial boundaries in terms of fences and shrubbery; his "territory" is psychological. As was discussed earlier, the visibility distance at night establishes a distance of between 50 to 100 feet in which features of others are discernable.⁷⁴ However, the distance normally defined as being personal and social distances is under twelve feet. (See Figure 8.)

This will vary according to the individual in the night setting; an elderly person would define his territory in a defensive manner -- fearing anyone who enters but unable to prevent a crime. A young man on the other hand may have defined a much larger territory that he will defend. In situations in which the users are constantly changing, it is important

to provide them with as much information as possible to allow them to fully understand their relationship with others; this then provides them with data to define their personal territory.

As discussed in the "opportunities" section, it is important to provide the user of night environments with the activities and resources that he seeks. If this is done, and the use of the night environment becomes an integral part of the person's lifestyle, he

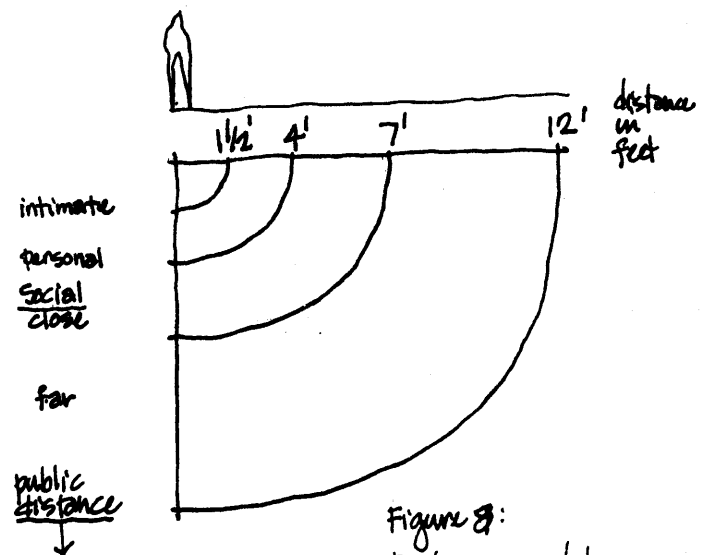


Figure 8:
Distances used by
individuals in their
dealings with
others

will attempt to secure it to allow for future use.

The third aspect is the person's understanding that his efforts to protect the night environment will be supported by others. This information is received from different sources, including news coverage of police tactics, involvement of other citizens, and his impression of the willingness of others on the scene to offer assistance. This is not an issue directly affected through planning or programming, but is significant in determining behavior.

2. Situational information: A key to promoting secure environments is to promote natural surveillance of the area, i.e., allowing the public areas to be visible from the structures or programming the uses to encourage pedestrian usage, providing potential witnesses to be on the street. From a psychological standpoint, the sheer knowledge that someone may be watching is important to alleviate some fears. In this respect, facilities with 24-hour staffing provides very good sentinels.

Jane Jacobs is often quoted for her views of creating safer streets through continual use:

...for maintaining the safety of the streets and the freedom of the city. It is a complex order. Its essence is intricacy of sidewalk use, bringing with it a constant succession of eyes.⁷⁵

The concept of natural surveillance is a primary issue in Newman's work, Defensible Space.

...surveillance...can have a pronounced effect in securing the environment for peaceful activities. An additional benefit, of possibly greater import, is that surveillance has a demonstrable effect in reducing irrational fears and anxieties in inhabitants. This may have some self-fulfilling

attributes in that residents, feeling that an area is secure, will make more frequent use of it and so further improve its security by providing the safety which comes with intensive use.⁷⁶

The key issues for promoting natural surveillance are visibility between the user, other users, and the residents; and communication options between them. Again, this is a responsibility of both designers and programmers; designers for creating physical environments promoting visible interaction between persons and programmers for providing incentives for use of the environment.

Policy decisions will vary between the different components of the night environment, particularly between the four use characteristics of districts. Continuous districts have a fairly constant group of potential witnesses who are familiar with the users and their activities. In a displacement district, in which a completely separate set of users enters at night, it is less possible for permanent parties to recognize individuals but must rely on actions to warn them of intentions.

As discussed earlier, the environment should strive to be more legible in the night environment. Information about the general character of the area, directional and locational information is needed by the pedestrian to provide him with basic information to negotiate the night environment. It should provide him with a better idea about the type of district, including assumptions about the potential witnesses.

3. Reaction to information: In the final analysis, the interpretation of the information and the person's appraisal of the

situation will govern the person's behavior. This is not in itself a pressure point which is open to planners and policy-makers; after providing the necessary environmental information and the background information as appropriate, the situation will determine the actions of the individual.

Citizen involvement

A program for including citizens in the process of defining the problems, proposing solutions, and implementing and maintaining the product is important to generating community support. A program similar to the one discussed on page _____ in which a clearinghouse accepts and coordinates the citizen action may be a feasible method of linking the desires of citizens with governmental agencies and funding sources.

Summary: Collective responsibility for security

A key issue in creating and supporting more secure nighttime environments is to provide adequate and accurate information with which the user may make decisions governing his behavior. The present method of crime prevention expends more effort after the crime has been committed than before; a strategy to provide information to citizens to promote their cooperation in preventing crimes before they are committed should be established.

The new approach to crime prevention is based on providing the users with both incentives for securing the night environment and information about his situation to promote more confident decisions.

The information includes some consideration of the background knowledge that is brought into a situation and the information presented to the user in the situation. Developing community support and including them in the problem-definition, decision-making process, and continued maintenance of the programs would be beneficial in mobilizing many people's efforts to protect their neighborhoods.

There are obviously different strategies and policies needed for different types and uses of the components of the night environment. Depending upon the users, their familiarity with the area, and their stake in its level of security, strategies of what information is important and how it is best presented is important and must be considered as a design consideration.

CHAPTER FIVE

IMPROVING THE NIGHT ENVIRONMENT:

REVIEWING THE PROCESS

The effects of darkness on the city are profound; the problems and situations that are created affect everyone, but to different degrees. Surprisingly little accurate or comprehensive information is known about how the night city affects people's attitudes and behavior; this results in very little consideration being given to the night environment in terms of design or programming efforts. There is a need for a commitment to make our cities available to everyone throughout the day.

The problems of the night city are too diverse to be solved with pat solutions; they can never account for the contingencies and complexities that arise between the various users and the dynamic environment. Therefore, what is needed is a process of decision-making accounting for the variety of factors involved and including those persons affected by the situation.

There are three basic points of importance to be understood before attempting to develop a process for creating more successful nighttime environments.

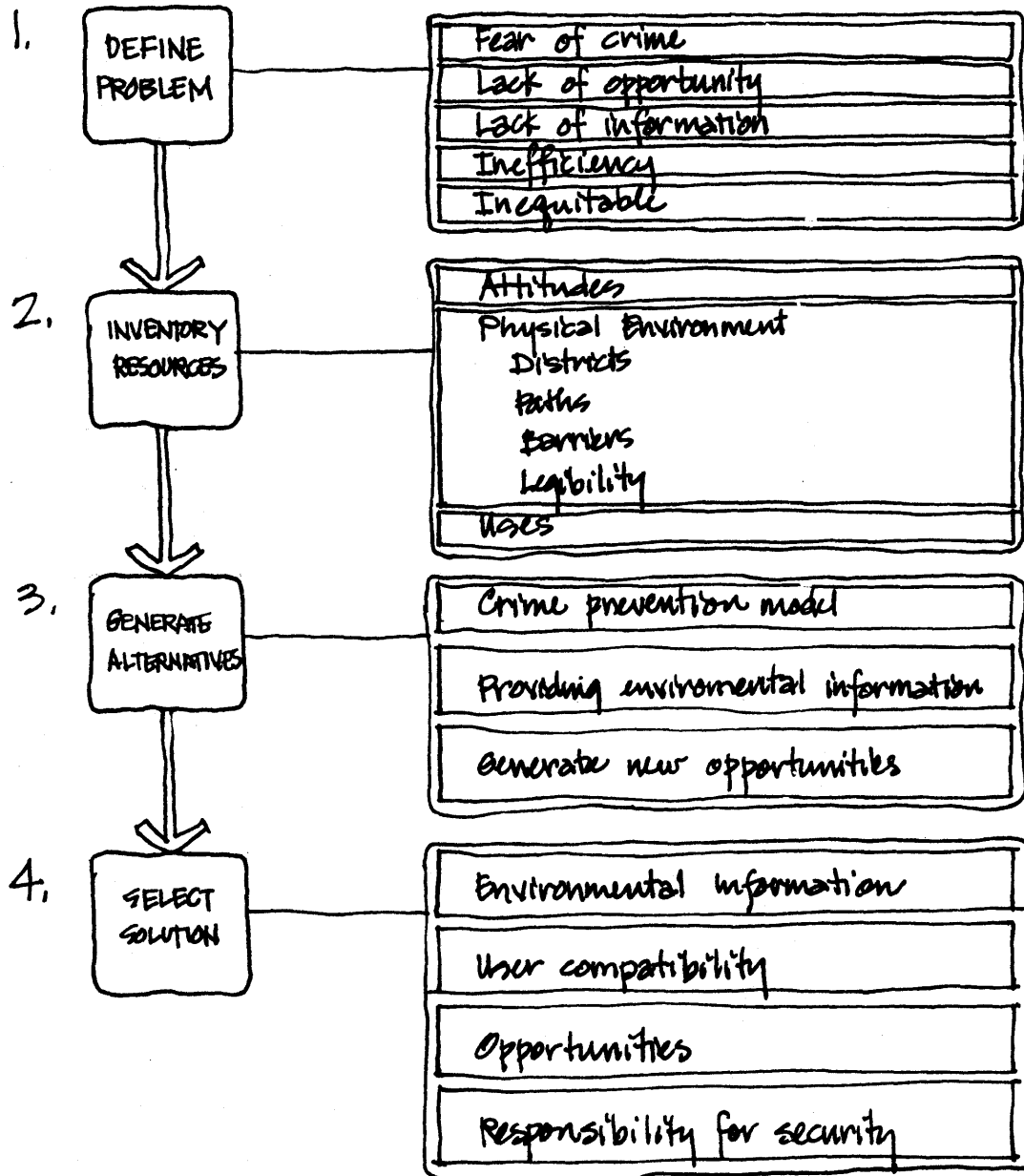
First: The city is dynamic; it is constantly changing its complexion, its use, and its users. It is impossible to design "successful" night environments without accounting for this fact.

Second: The assets and liabilities of the night environment are situational, they are dependent upon numerous factors unique to that time and place. Therefore, it is necessary to consider each situation and not be caught in the trap of proposing solutions and trying to force them on all problems.

Third: The clients of design and programming decisions differ between situations, and even within situations, in terms of their needs and desires. They must be an integral part of the decision-making process to insure that their needs are accounted for. It is also true that desires change over time and new users replace the old, bringing with them new needs. The result being that the "solutions" may be only temporary; the system must be flexible to deal with the ever changing issues and problems.

With these considerations in mind, a process for developing solutions to specific problems was discussed in the study. The process is the basic problem solving technique: define the problem, inventory the resources, generate alternative solutions, and select the solution which appears to offer the greatest benefits at the least cost.

Corresponding to each stage in the process, important elements to be considered when designing or programming night environments were discussed in the study. The relationships are indicated in the following diagram:



The key to the process is flexibility between situations, depending upon the needs of the clients and the environmental resources available. Some of the key issues of the flow of the system will be explained to further clarify their relationships.

1. Problem definition. This stage is a function of the desires and perceptions of the users and the potential users. The flow may begin either from the bottom up or the top down. That is, the problem may be defined and brought to the attention of the authorities or a clearinghouse agency by the citizens, or it may be instigated by an agency with the citizens acting as consultants, contributing their perspective.

In some situations, notably evacuation districts, there will be no nighttime users to act as consultants. In this situation, the decision-makers are responsible for considering the public welfare and deciding accordingly.

2. Inventorying the resources. Determining availability of resources is an important function of the process, but it is not limited to simply classifying the physical environment. It must include people's attitudes about the night city and how the environment is used.

a. Attitudes: The basic intent of inventorying attitudes of the users and the potential users is to determine their impressions of the situation, the problems, and possible solutions. This would be compared with other information about the actual situation. Discrepancies in their perceptions would form the basis for an education approach to clarifying the problem. Accuracy in

their perceptions would set priorities of how to deal with the issues. The process would begin with individual interviews, the issues would later be brought out in public meetings for discussion.

The interviews would be concerned with the following issues:

- General attitudes about the city at night.
- Attitudes about the physical environment.
- Attitudes about the other users of the night environment.
- How they use the night environment.
- How they would like to use the night environment.

b. Physical environment: The resources and liabilities of the physical environment would be simultaneously inventoried according to the basic components of the night environment -- districts, paths, and barriers. The object being to determine how they are used and perceived; i.e., which paths are or are not used and by whom, what is considered a barrier, are they positive or negative, what are the fine-grained districts in the neighborhood and how are they conceived of and used by the people, etc.

c. Opportunities available. Depending upon the clients, a summary of the various opportunities available would be developed. This would tie in with how the people use the district and what paths are selected. It also indicates types of activities or resources that are lacking within reach of the residents and might suggest possible additions. Also included would be an inventory of unused resources, buildings parks, which offer potential for night use.

The value of this information is the fact that it records actual use patterns, the resources of the district, and people's attitudes and perceptions. In effect, it compares the actual situation

versus the perceived; the result being an indication of the actual extent of the problems and the weightings between the different problem categories.

3. Generating alternatives. In the text, three general strategies were discussed: a model for crime prevention, notes on providing environmental information, and a strategy for allowing citizens to participate in creating new opportunities for using the night environment. Depending upon how the problems are defined and weighted, the various strategies may be employed. If the problem is primarily one of crime prevention, then the design and programming of the environment would take into consideration factors such as natural surveillance, uniformity of illumination, and so forth. If the problem was one of lack of opportunities for educational courses or night playgrounds, a different orientation and different solution would be proposed.

4. Selection of the solution: Four basic concepts were presented which are common to all successful night environments. Depending upon the specific situation, the importance of each may vary. User compatibility is normally the most important of the four because it represents either a supportive or negative environment.

The final selection of a solution should, ideally, be based on a decision in which the users and potential users participate. They should maintain partial responsibility for implementation and maintenance. Several of the community patrols in Boston, in which the citizens patrol residential neighborhoods acting as the eyes and ears for the police is an example of a programming response to the

problem of crime; the citizens made a commitment to participate in the solution and must accept continued responsibility.

Improving the night environment is a complex set of problems, involving many professions and citizens. The problems are situational and transitional, constantly changing according to the needs of those who wish to use the city at night. Before truly comprehensive solutions may be found, more information about the effects of darkness on the use of the city must be collected, and most of all, a commitment made to create livable cities which function through the day.

APPENDIX

APPENDIX A

THE VICTIMS OF STREET CRIMES

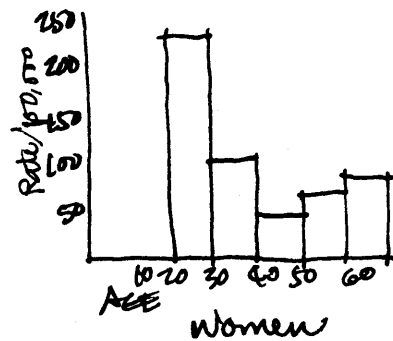
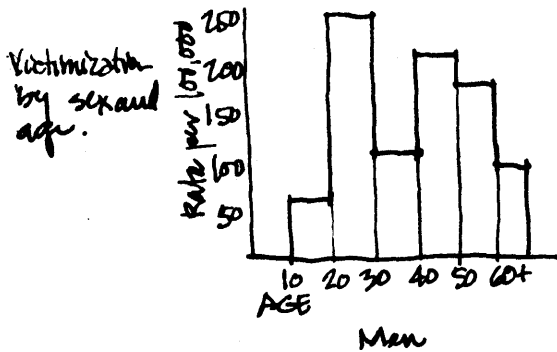
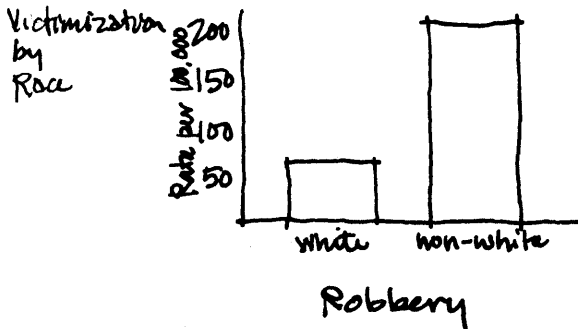
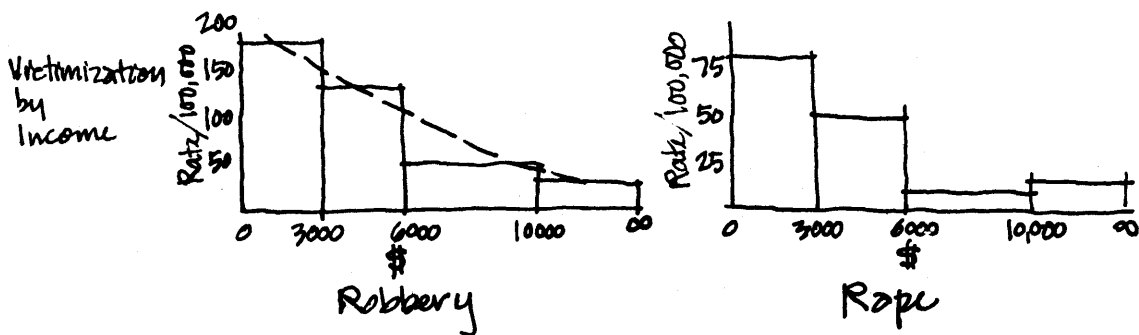
It is possible to define hundreds of victim types, as some people have attempted to do, but there are only two overriding classifications of importance to this study: biological types and situational victims. Stephen Schafer states: "...there are indeed biological types of victims who, compared with temporary 'situational' victims, seem to be continuously and excessively prone to becoming victims of crime. To be young, to be old, or to be mentally defective are not 'situations' but biological qualities that indicate a more or less lasting vulnerability to crime." ⁷⁷

In this respect, there are several strategies appropriate for designers and programmers. One being an attempt to design environments that minimize the effect of the personal qualities making people potential victims. Elderly persons are slower and weaker than their younger assailants, and therefore require more time for reaction than would a physically superior person. They are also more sensitive to changes in light levels, implying greater consideration for lighting characteristics in areas frequented by the elderly.

The second approach may be programming the night user so as to discourage potential victims from unknowingly wandering into situations leading to their victimization. Factors such as where people walk at night, how they dress and react in situations, who they are with, and the carrying of objects all affect an individuals probability of being attacked. Public understanding of the situation

and what their alternatives are would be helpful in avoiding potentially hazardous situations.

Theories of victimology and categories of different characteristics are valuable, but information about who is actually victimized is also needed. This may only be obtained through comprehensive victimization surveys in which a random sample of persons are interviewed about their experiences. In 1968, the President's Commission on Law Enforcement conducted a survey which yielded valuable information about frequency of crime. Graphs _____ indicate the victimization rates for different personal characteristics.



Source: President's Comm. on Criminal Justice, THE CHALLENGE OF CRIME IN A FREE SOCIETY.

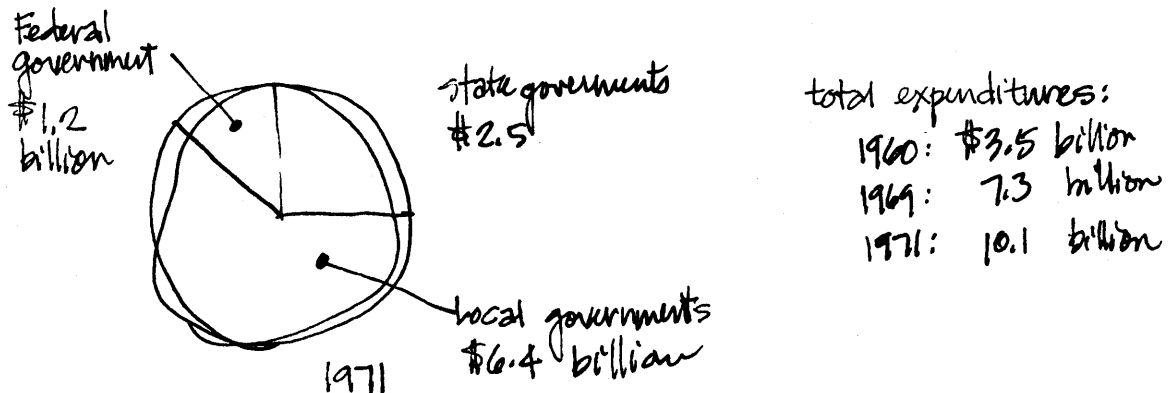
The victimization statistics indicate a negative correlation between the rate of victimization and an individual's "victim typology" -- that is, the persons with higher vulnerability due to physical or mental limitations are victimized less than others. An elderly person is weaker and slower than a young person and is more vulnerable, but their victimization rate is lower because they counter vulnerability by avoiding situations with crime potential, such as in the night environment. The groups with high victimization rates are the most frequently exposed to situations in which crime is likely. Young people have more "man-hours" on the street and have a higher probability of being victimized. Therefore, a strategy is to minimize the situations in which crime may occur. A simple directive. A most difficult task.

APPENDIX B

MONETARY COST OF CRIME

The costs of crime in America are estimated to be tremendously high; J. Edgar Hoover once estimated the total cost of crime to be \$22 billion,⁷⁸ another estimate showed \$16 billion per year as the cost to businesses in stolen merchandise, expensive security systems and lost business. The crimes of robbery, burglary, larceny and auto theft account for only a small portion of the whole, estimated to be \$600 million.⁷⁹ The value of these figures is their impact on the reader, not in their accuracy; they indicate that, in terms of dollars, the scale of the problem is enormous. They only indicate there is a problem, not exactly how large. Many discredit the estimates totally.⁸⁰

The cost of the criminal justice system is more easily and accurately computed, but just as frightening. Between 1960 and 1971, the cost nearly tripled:⁸¹



It can be assumed that the cost of crime prevention will continue to rise, probably faster than the spiraling inflation rate of the economy. Police departments, the courts and correction systems are being expanded in hope of eventually reaching a point at which they effectively prevent crime. (It is interesting to note that the criminal justice system expenses are approaching the estimates for the cost of stolen merchandise and private protection efforts; they may eventually find that it is more reasonable, financially to allow crime to take its own course!)

It should be noted that there is some confusion over the terminology "property lost through crime"; in fact, it is not "lost" per se, but reallocated between individuals. Actually, it can be shown that through an intricate chain of events, many people actually benefit enormously from crime, including the legitimate industries who make appliances or jewelry and insurance companies. However, the victims, even if insured, suffer the brunt of the loss, and in most street crimes they are the members of society least able to sustain the losses. That is the irony and the greatest injustice of the system. This may have several policy implications, such as subsidized insurance programs, victim compensation by the government or funding priorities. From the designer or programmer's point of view it may be a matter of priority: who are the clients and how may their needs best be met? This points to the need for assisting in problem definition by the people and proposing solutions; it is difficult for a person from a different culture (and few planners or designers come from the ranks of the ghetto) to propose solutions for the residents of

Roxbury or Bedford-Stuyvesant.

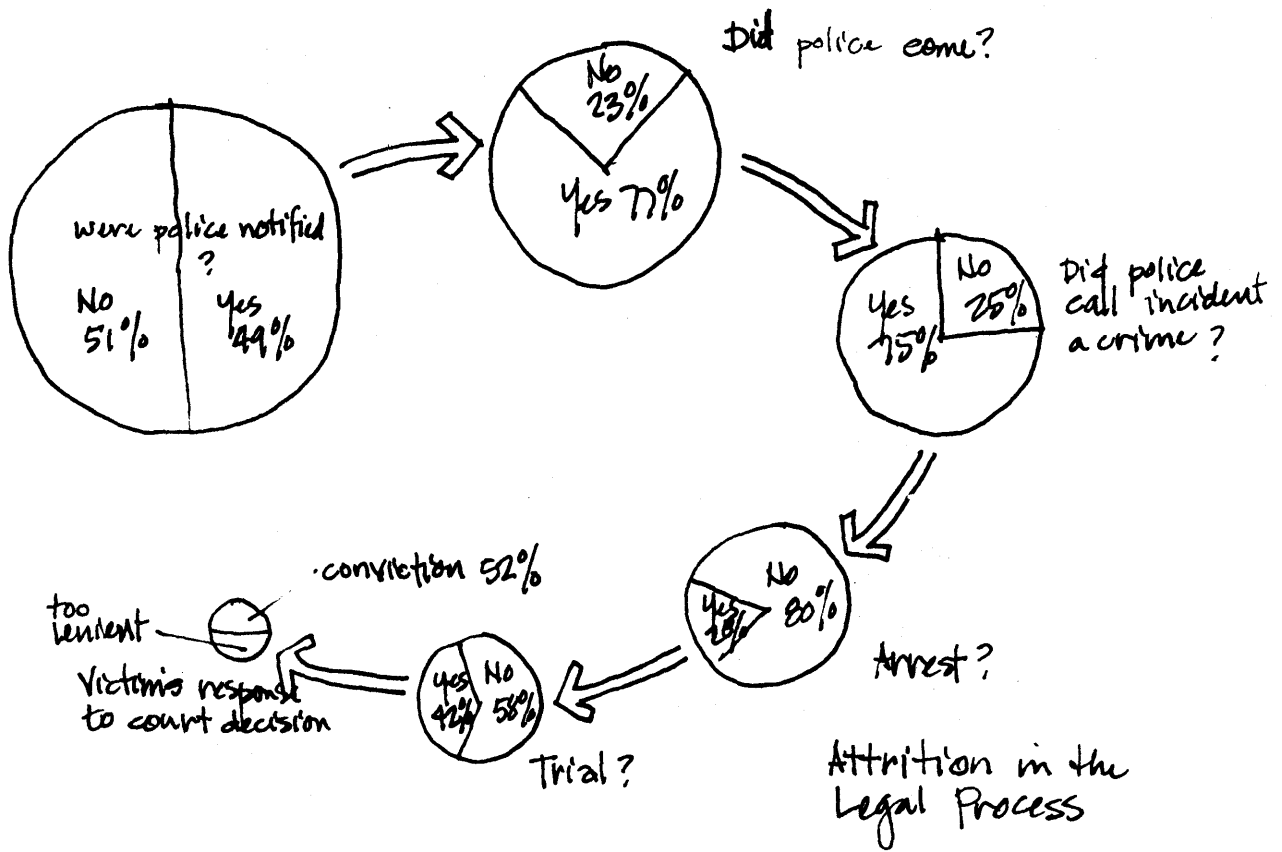
The necessity of considering crime prevention prior to or during design may be made forcefully in monetary terms. It is much more expensive to modify an existing environment than to include the same features in the original construction. The Mayor's Safe Streets Committee of Boston encountered this problem while deciding how to spend an anticipated \$1 million grant from LEAA and HUD to improve housing project security in several projects. Half of the money could be spent on physical improvements. After looking at the problems and estimating what could be done, they discovered that all that could be accomplished with a half-million dollars was installing sturdier doors in several projects!⁸² The work of Oscar Newman, as discussed in DEFENSIBLE SPACE, attempts to define physical configurations and attributes that would improve the natural surveillance and the ability of the residents to define their area of influence in the design considerations could then be developed into the project in the beginning. Several existing housing projects were redesigned to incorporate the "defensible space" principles -- one of the lessons was that it is significantly more expensive after the fact.

Looking at costs in monetary terms is a great American tradition, but obviously a weak criteria for measuring the actual impact of crime on city life. The guesstimates provide figures too astronomical to be translated into human terms, yet the personal anxieties and fears of crime by far supercede the dollar expenditures for prevention or the value "lost". The irony and injustice of the present strategy of crime prevention is the actual cost of crime is born by those least able to afford the losses.

APPENDIX C

MEASURING THE SUCCESS OF
CRIME PREVENTION EFFORTS

To know if the crime prevention strategies are successful, measurements must be agreed to. The present methods are inaccurate and misleading; they are based on the reported crimes to the police and how they are classified. Only 1 out of 2 crimes are reported, three-fourths of those are not responded to by the police, and finally only three-fourths are classified as a crime. In other words, only 25% of actual crimes are reported in the police records.⁸³



There are a variety of reasons that the crimes are not reported to the police: 84

1. Believed police would not be effective (55%)
2. Believed the incident was not a police matter (34%)
3. Did not want to take the time or trouble (9%)
4. Fear of reprisal (2%)

The ratio of reported crimes varies between the types of crimes and by the type of neighborhoods, with "high crime districts" actually having a higher amount of crime than indicated.

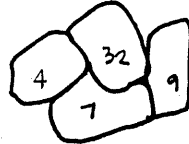
The most common measure of crime is the "crime rate" -- the number of reported crimes per year divided by the population, yielding a rate per capita per year. This is a "crude rate", which does not consider the amount of crime committed per opportunity but per capita. In other words, the potential victims of street crimes at night are those persons who are using the city streets; this excludes elderly who stay home, children who have nothing to steal, invalids and other non-users. The population counts, based on the decennial census, become progressively unreliable over time, causing distortion. Therefore, by using population as the divisor, the rate represents a distorted view of the true likelihood of being victimized.

The present system of measuring crime is insensitive to the actual amount of crimes, who the victims and offenders are, and what characteristics of the city were influential. There are several alternatives which would give greater insight into the situation.

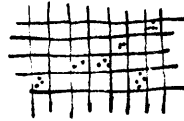
1. Pedestrian usage -- Relating the number of crimes committed by location to the area's intensity of use would permit greater

sensitivity to the relationships between use and crime incidence. This becomes particularly critical at night when the perceptions of safety are paramount. For most cities, this would require significant changes in the way they report the location of crime. In a lighting study in Kansas City, Missouri, the police data reported crimes by block rather than by block face; therefore, it was not possible to determine the actual location of the crime.

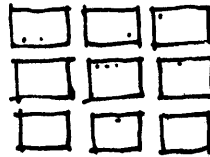
An example of a worse system is found in the sister city, Kansas City, Kansas, which reports crime by precinct only. The aggregated data disallows all but the most cursory judgments about the environmental variables involved.



... by precinct



... by block



... by block face

Reporting crime at different scales yields different interpretations

2. Merchants' profits -- A direct cost-benefit measure in terms of the sales of a district over time versus the cost of crime prevention strategies would permit a measure that is comprehensible to all Americans. An example might be to measure the effects of a downtown street lighting program in terms of the increased business to the merchants.

3. Public image -- There is an important and obvious relationship between people's perceptions of the security of a district and their use of it, especially at night. Unsafe districts are avoided, safe ones are used. This measurement would require attitudinal

surveys to determine the extent to which the crime prevention programs promoted the perception of safety and how this affected their use habits.

4. Property values -- Comparisons between fluctuations in property values, might be a possible measure of the long term effects of programs. This should correlate with people's changing attitudes about the districts and their willingness to live or work there.

As long as the present techniques for measuring success are used, there will be a definite gap of critical information with which to both generate new programs and evaluate those that are implemented. New measures of success are needed that may be translated into a comprehensible cost-benefit comparison which reflects not only the short-term results, but long-term results also.

Several themes in the strategies for crime prevention are important to note because they also apply to the design and programming of the environment:

1. Citizens want to see the preventive measures, therefore direct methods such as guards and locks, will continue to be used.

2. Citizens want immediate results. It is not feasible to tell someone who lives in daily fear that her grandchildren will live in a safe environment because of the long term planning; she wants to, and deserves to, life in a safe environment. Therefore, remedial measures, while being condemned as "bandaids on cancer" have an important function.

3. Educating the public and trying to develop positive attitudes are becoming more commonly accepted methods of crime

prevention. They still rank as a second order priority and have not been developed with enough sensitivity to achieve their potential.

4. The awareness that the physical environment may assist in crime prevention is growing, but more of a result of federal funding projects than commitment by the local specialist. The federal directives may be seen as a growing frustration with the inability of the present system of police/courts/corrections to deal effectively with the issues, and alternatives are sought.

FOOTNOTE

1. John Wideman, "Fear in the Streets," The American Scholar, 40:4 (Autumn 1971), p. 613.
2. William Bullard, Planning Director, Independence, Missouri, Interview, (August 1973).
3. Lewis Mumford, Lecture at MIT, Cambridge, Mass., (9 April 1974).
4. The Norfolk project was an evaluation of street lighting, sponsored by the Norfolk Redevelopment and Housing Authority. Principle researcher was Gary Hack, Associate Professor of Urban Studies, MIT, Cambridge, Mass. Interviewing done during August, 1973.
Boston interviewing was sponsored by a grant from the National Endowment for the Arts during February 1973 by the author.
5. In the Norfolk survey, the respondents were asked to indicate the number of evenings that they spent at home during a "typical week"; in the Boston survey, they were asked how many of the previous seven evenings they left home.
6. The data was also looked at by race, occupation, and residential location, but it was felt that the information would be misleading due to insufficient responses in some categories.
7. Interview in Boston, January 1974.
8. "An Old Fear in the Fenway," Boston Globe (9 March 1974).
9. Philip Slater, The Pursuit of Loneliness, (Boston: Beacon Press, 1970), p. 1.
10. Morton Hunt, The Mugging, (New York: The New American Library, Inc., 1972), p. vii.
11. U.S. President's Commission on Law Enforcement and Administration of Criminal Justice, The Challenge of Crime in a Free Society, (Washington: U.S. Govt. Printing Office, 1967), p. 18.
12. Robert Sommer, "The Security State of Mind," The Nation (20 November 1972), pp. 495-7.
13. Wideman, "Fear in the Streets," p. 611.
14. Ibid.
15. Gallop Opinion Index (April 1972), pp. 10-14.

16. "Are You Personally Afraid of Crime? Readers Speak Out," LIFE Magazine, 72:1 (14 January 1972), pp. 28-30.

17. The LIFE questionnaires tended to either oversimplify the subject or produce loaded results. Such as the question concerning how people don't feel in their homes; the possible responses were:

- I never worry
- I worry now and then
- I find myself more and more worried
- I'm so worried that I'd like to move

LIFE then printed the results as indicating 78% of the people sometimes felt unsafe in their home, a statement that apparently includes at least three of the four possible responses.

18. Albert Boderman, Louise Johnson, Jennie McIntyre, Andrienne Wier, Report On a Pilot Study in the District of Columbia on Victimization and Attitudes Toward Law Enforcement, (Washington, D.C.: Bureau of Social Science Research, Inc., 1967), pp. 122-123.

19. The victimization rates were from the Chicago Police Department, rather than Washington, D.C., based on the assumption that the relationship would be consistent between the two cities.

20. Frank Furstenberg, Jr., "Public Reaction to Crime in the Streets," The American Scholar 40:4, (Autumn 1971), pp. 607-8.

21. Hunt, The Mugging,

22. Ramsey Clark, Crime in America, (New York: Pocket Books, 1970), p. 34.

23. U.S. President's Commission, Challenge of Crime (New York: Avon Press, 1967), p. 62.

24. "Living with Crime, U.S.A.," Newsweek, (18 December 1972), p. 32.

25. In a survey of people's attitudes about Boston at night in April 1974, one respondent expressed the fears of many elderly persons with her statement:

An elderly gentleman, while slightly more optimistic, still agreed that "things is not too good...":

26. One pamphlet for women offered the following advice for protection: "If grabbed from behind, smash down hard on the attacker's instep with your heel, throw your head back into his face, bite or bend his fingers, kick his shin and gouge his ribs with your elbows." Unless the victim is proficient at counter attacks, the probability of injury is increased.

27. Gary Hack et.al., "Evaluation of Nighttime Environments," rough draft, (August 1973).

28. Grady Clay, comment to author while guest lecturer at MIT, (Fall 1973).

29. Hunt, The Mugging, p. 26.

30. In a lecture at MIT in the Spring of 1974, Lewis Mumford described the "ten year old mentality" to be the concept that history has little validity in our everchanging world because the information is outdated if over ten years old.

31. Hunt, The Mugging, p. 26.

32. "Living with Crime, U.S.A.," Newsweek, p. 32.

33. U.S. Commission on the Causes and Prevention of Violence, Violent Crimes, (New York: George Braziller, 1969).

34. Albert Reiss, Jr., Studies in Crime and Law Enforcement in Major Metropolitan Areas, Field Surveys III; Vol. I for President's Commission on Law Enforcement (Washington: USGPO, 1965), pp. 131-143.

35. Stuart Palmer, The Prevention of Crime, (New York: Behavioral Publications, 1973).

36. "Cutting the Crime Rate: How the Nation's Capital Does It," U.S. News and World Report, (10 April 1972), p. 24.
37. See publications by The Street and Highway Safety Lighting Bureau, New York City, for biased and misleading perspective on lighting and crime.
38. "Street Crime: Who's Winning ?", Time, (23 Oct. 1972), p. 55.
39. "Combating Crime: The Price Goes Up," U.S. News and World Report, (5 June 1972).
40. C. Ray Jeffery, Crime Prevention Through Environmental Design, (Veverly Hills, London: Sage Publication, 1972), p. 141.
41. Interview with Don Bogosian, Assistant Director of the Cleveland Impact Program.
42. Request for Proposal No. J-008 -LEAA -3 entitled "Crime Prevention Through Environmental Design," Law Enforcement Assistance Administration, (2 July 1973).
43. See "LEAA High Impact Anti Crime," brochure published through LEAA.
44. Based on interviews with 5 of the 8 Impact city staffs and reviewing their published material.
45. Herbert Gans, The Urban Villagers.
46. During my research, I contacted a variety of officials in a dozen cities around the country and requested information about developments displaying very high or very low crime rates. Invariably, the responses would list primarily low/moderate income housing projects as the most dangerous, and be less confident that any safe projects had been built.
47. "Light Fights Crime, Prevents Accidents," The American City, (Sept. 1971), p. 120.
48. "A Brighter City is a Safer City," The American City, (Nov. 1969), p. 110.
49. "Crime Fades in the Light," The American City, (June, 1972), p. 15.
50. Ibid.
51. Interview with Bill Lam, principal in William Lam Associates, Cambridge, Mass., (Fall 1973).

52. Hack, op.cit.
53. Oscar Newman, Defensible Space, (New York: MacMillan, 1972)
54. Shlomo Angel, Discouraging Crime Through City Planning, (Berkeley: Institute of Urban and Regional Development, University of California, February 1968).
55. Gerald Medtke and Associates, Crime and the Physical City, (Detroit, 1970).
56. Jane Jacobs, The Death and Life of Great American Cities, (New York: Vintage, 1961).
57. Newman, Defensible Space, p. 206.
58. Ibid., p. 207.
59. LEAA RFP, "Crime Prevention Through Environmental Design."
60. President's Commission, Challenge of Crime.
61. Interview with Don Bogosian, Cleveland Impact Cities Program, (28 January 1974). Cleveland has a volunteer auxillary police staff of 900 with a goal of 1300. The citizens are trained, given uniforms and radios, and serve as the "eyes and ears" for the police. The program is not unique to Cleveland, but their's appears to be one of the best.
62. The "home watch contract" is a non-legal agreement between neighbors to report suspicious incidents to the police. The act of signing a piece of paper carries weight with the people and they conscientiously obey the commitment. Interview with Linda Weiss, Boston Mayor's Safe Street Committee, (October 1973).
63. Interview with Don Cleveland, Director of the Dallas Area Criminal Justice Council, (27 January 1974).
64. Interview with Martin Braeskey, Asst. Director, Missouri Law Enforcement Assistance Council, Region Five, St. Louis, (20 Dec. 1973).
65. President's Commission, Challenge of Crime, p. 168.
66. Newman, Defensible Space, p. 79.
67. "New Yorkers Fight Back: The Tilt Toward Vigilantism," New York, p. 49.
68. Ibid., p. 50.

69. Kevin Lynch, Image of the City, (Cambridge: MIT Press, 1960), p. 47.

70. "5 Reasons and 18 Ways to Improve Your Street Lighting," The Street and Highway Safety Lighting Bureau.

71. William Lam, Jackie Lau, et.al., Performance Criteria for Outdoor Lighting, for State University of New York, Albany, New York, p. 48-49.

72. Newman, Defensible Space.

73. Ibid.

74. Lam, Performance Criteria, p. 48-49.

75. Jacobs, Death and Life, p. 50.

76. Newman, Defensible Space, p. 78.

77. Stephen Schafer, The Victim and His Criminal, (New York: Random House, 1968), p. 50.

78. Ibid., p. 63.

79. President's Commission, Challenge of Crime, p. 125.

80. For discussions fo the invalidity of cost estimates of crime, see:

Edwin H. Sutherland and Donald R. Cressy, Principles of Criminology, 7th ed., Philadelphia, 1966, p. 23.

Harry Elmer Barnes and Negley Teeters, New Horizons in Criminology, 3rd ed., Englewood Cliffs, 1959, p. 7.

Gherherd O.W. Mueller, "Compensation for Victims of Crime: Thought Before Action," Minnesota Law Review, Dec. 1965, p. 218.

All three discussions consider the cost estimates to be "based on unwarranted assumptions" (Sutherland), "difficult to estimate even its approximate cost" (Barnes), or "totally in the dark" (Mueller).

81. _____, U.S. News and World Report, (5 June 1972), p. 62.

82. Interview with Linda Weiss, (February 1974).

83. Philip Ennis, "Crimes, Victim and the Victim," TransActions 4:7 (June 1967), p. 36-44.

84. Ibid.,

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