

## Neighborhood Park (Fort Wayne): A Study For Better Environment

Hong, Sung Kwon

*Dept. of Landscape Architecture, TEXAS A & M Univ.*

Fort Wayne 市 近隣公園에 關한 研究

TEXAS A & M 大學 Ph.D 課程

洪 性 權

개 요

본 연구는 인디애나주 Fort Wayne 시에 있는 근린공원을 대상으로 이용과 비이용의 이유를 밝히고 그 해결책을 제시하였다.

연구 대상지로는 이용이 잘되는 2개 공원과 이용이 잘 안되고 있는 2개 공원이 Fort Wayne 시 공원국장과의 면담으로 결정되었다. 설문지와 직접 관찰법이 주요 연구 수단이었으며, 나이, 성별, 소득, 인종별로 자료를 분석해 이용이 잘 되고 있는 공원과 잘 안되고 있는 공원들의 차이를 분석하였다. 분석결과 공원 이용빈도 차이는 각 공원의 시설 및 각 공원주변의 인구조성이 가장 큰 결정요인으로 밝혀졌으며 (1) 환경 및 사회적인 요소, (2) 공원에 대한 이용자의 만족이라는 2가지 측면으로 해결책을 제시하였다.

### ABSTRACT

This study was an effort to identify the reasons for use or underuse of neighborhood parks in Fort Wayne, Indiana and to suggest the solutions for the problems found. The significant differences between under and

heavily used parks were found by the quantity and quality of each park's facilities and by the racial characteristic of residents around the each park. Environmental and social factors, and user satisfaction with their neighborhood park are suggested to be the solutions.

## 1. INTRODUCTION

### 1-1. UNDERUTILIZATION OF THE NEIGHBORHOOD PARK

Despite excellent weather, convenient access, good development and maintenance, statistics indicate that neighborhood parks are underutilized. Most use levels seldom exceed 20 percent of the total possible users at peak use periods and average between 1 to 5 percent during normal use periods (Gold, 1977, Gold, 1972).

The traditional approaches to urban recreation planning in general can be challenged for these reasons: (1) they project only the past and present; (2) they consider the quantitative instead of the qualitative aspects of a recreation experience; (3) they do not reflect a behavioral approach to accommodate expressed or latent demand or user needs; (4) they do not relate to the overall objectives, priorities, and resources of most communities or acknowledge possible tradeoffs with other public or private services; (5) they do not reflect citizen participation in the planning process or a systematic survey of user preferences and satisfaction; (6) they reflect a quantitative statement of an idealized system as envisioned by the supplier, not the user; (7) a different hierarchy in park design is used between designer and the user.

As a result, only a fraction of potential users frequently use the parks. Henry Sanoff and John Dickson (1971) found in the study of Baltimore that much more activity occurred in the street and sidewalk than in the central playground and open field designated for activity. Also, a Baltimore Department of Planning Study (1972) reported a significant difference in the use of open space, depending upon socioeconomic class: "In the low-income sites

studied, most outdoor leisure activities occurred in the front of the house: on porches, steps, sidewalks, or street" (Baltimore Community Renewal Program interim Report). A characteristic of park use is that black people use parks more intensively, and low income blacks interacted with their neighbors more frequently near home, resulting in greater use of home-based spaces.

### 1-2. PROBLEM STATEMENT

Today, throughout the United State, there is a trend of epidemic proportions in the underutilization of neighborhood parks. Despite the good intentions of community agencies responsible for the design, administration and maintenance of these parks, often these neighborhood parks simply do not accommodate the needs of the growing majority of non-users.

Thus, there exists a valuable opportunity for the landscape architect to investigate the reasons behind this underutilization, to understand preferences and to offer recommendations that could increase the attractiveness of neighborhood parks to the general public.

### 1-3. GOALS OF THE STUDY

It is today's trend that most people do not use neighborhood parks. Although neighborhood parks are well-meant, often they do not accommodate the needs of the growing majority of non users (US Department of Housing and Urban Development, 1974).

The goals of this study are: (1) to understand the reasons why neighborhood parks are underutilized. (2) to suggest neighborhood park design considerations.

### 1-4. THE STUDY SITE

Four parks in Fort Wayne have been chosen as study sites for the following rationale; (1)

Table 1. Census Around the Parks  
Population

	Total Persons			
	Reservoir	E. Swinney	Weisser	Lakeside
under 19 years	2,392	1,534	3,992	1,577
19 ~ 29 years	1,386	1,635	1,954	1,455
30 ~ 55 years	1,649	1,679	2,462	1,730
over 55 years	1,050	1,056	1,517	1,166
density (per./sq. mi)	7,981	6,328	8,793	6,724

## Income

	Total Households			
	Reservoir	E. Swinney	Weisser	Lakeside
Less \$ 5,000	487	409	570	218
\$ 5,000 - \$ 7,999	322	426	402	202
\$ 8,000 - \$ 10,999	247	411	395	281
\$ 11,000 - \$ 13,999	269	316	338	313
\$ 14,000 - \$ 16,999	245	237	301	270
\$ 17,000 - \$ 19,999	233	197	281	248
\$ 20,000 - \$ 24,999	154	266	348	343
\$ 25,000 - \$ 29,999	136	100	228	202
\$ 30,000 over	235	181	360	417
means	\$ 13,977	\$ 13,677	\$ 16,560	\$ 21,609

## Race

	Total Persons			
	Reservoir	E. Swinney	Weisser	Lakeside
white	3,048	5,538	3,189	5,827
black	3,174	189	6,443	32
other	255	177	293	69

Fort Wayne is the city with a very good quality park system in the Midwest, (2) it has one of the highest population densities in Indiana (US Bureau of Census, 1984).

After interviewing with the Director of the Parks and Recreation Department of Fort

Wayne, two heavily used parks (Weisser Park, Lakeside Park), and two underused parks (Reservoir Park, East Swinney Park) are determined.

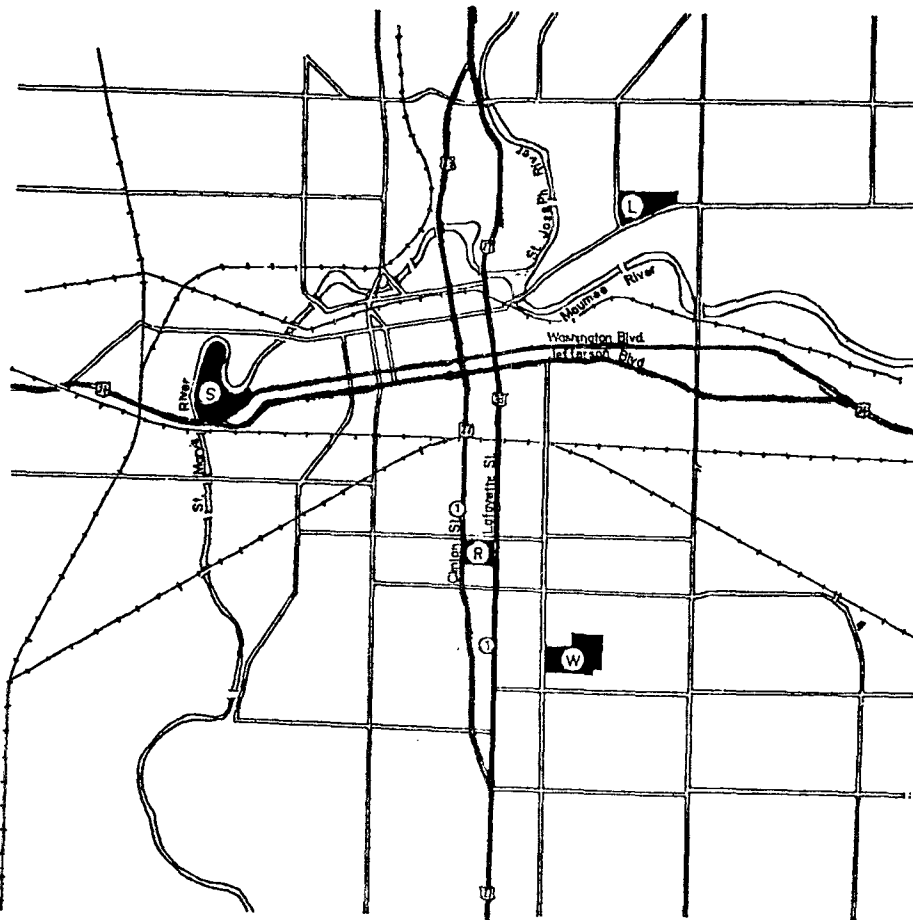
Census of Population and Housing Block Statistics (1980) is used to calculate popula-

tion, income and race. Parks may be used by people from more than one of the statistical block zone. If more than half of a block is within the range of a half mile radius from the center of the chosen park, such block is regarded as study site. If less than half of a statistical block is within the range of a half mile radius, it is rejected as study site.

1-5. DESCRIPTION OF PARKS

1-5-1. Reservoir Park

The size of this park is 13.2 acres. Two sides of Reservoir Park are adjacent to main roads (Clinton St. and Lafayette St.), while the other two sides of the park are adjacent to residential areas (Fig. 1, Fig. 2). The Cooper



- Ⓛ: LAKESIDE PARK      Ⓢ: EAST SWINNEY PARK
- Ⓡ: RESERVOIR PARK    Ⓦ: WEISSER PARK

Fig. 1. Location Map.

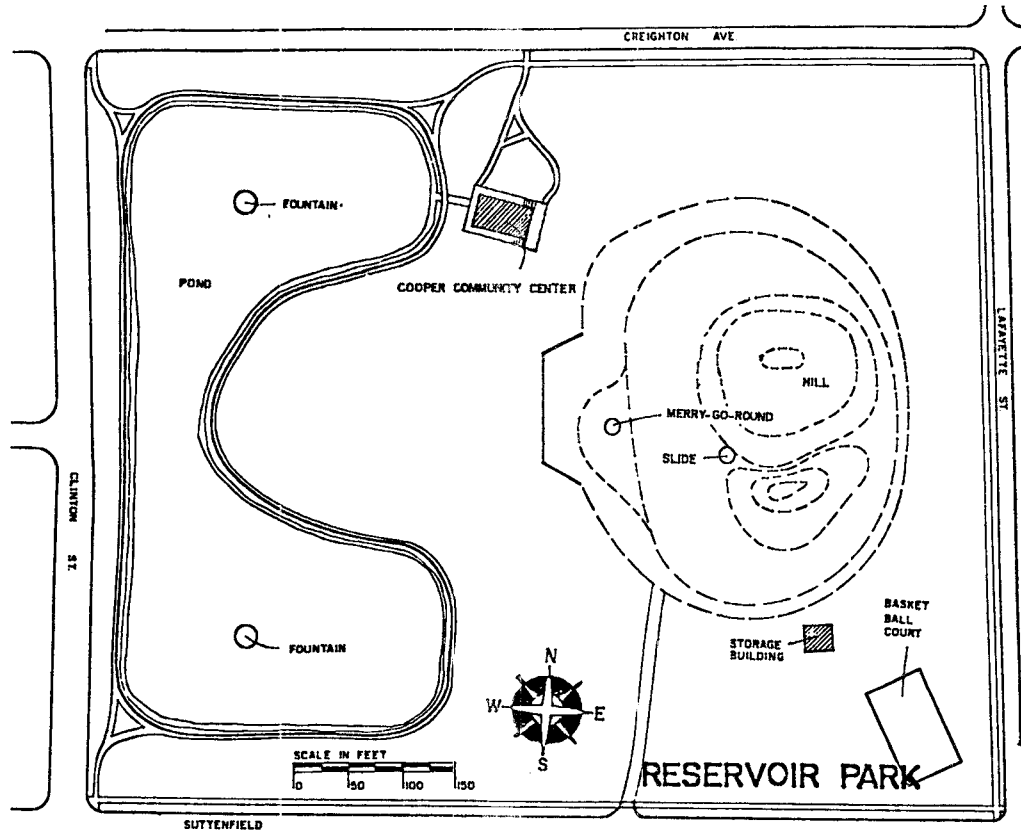


Fig. 2. Site Inventory Map of Reservoir Park.

Community Center in this park has two video machines, two ping pong tables, three bumper pool tables, chinese checkers and a restroom. The center is open from July 18th to Sept. 8th after 7 o'clock p.m.; it also sponsors the recreation programs. The recreation programs of Reservoir Park are basically for teenagers. Almost half of residents around this park are black and the ratio of under 19 years is relatively high (Table 1).

#### 1-5-2. East Swinney Park

E. Swinney Park, whose size is 46.3 acres, is enclosed by a busy street (Washington Boulevard) and St. Mary's River. Another

neighborhood park, W. Swinney Park, and tennis courts are located near E. Swinney Park (Fig. 1). Access points to the park are: (1) one bridge which connects to the residential area across the river, (2) one entrance from the main road, and (3) an underpass from the tennis courts (Fig. 3). Almost all of the residents around this park are white (Table 1).

#### 1-5-3. Weisser Park

The size of Weisser Park is 20 acres. This park is located in a residential area (Fig. 1). Weisser Park Elementary School is attached to this park so that facilities, like the ball diamond and the playground, are used by both

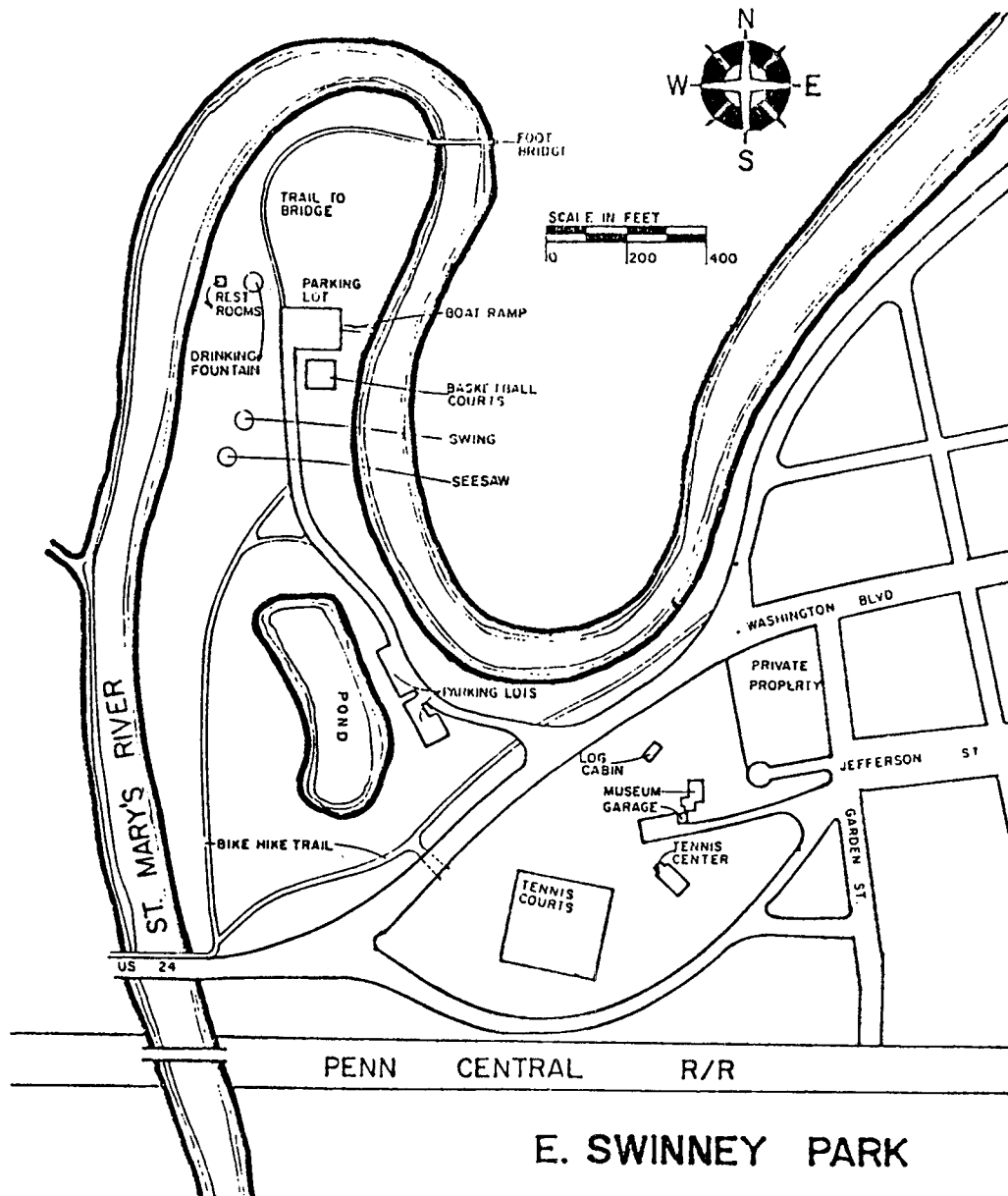


Fig. 3. Site Inventory Map of E. Swinney Park.

the elementary school and the Weisser Park- (Fig. 4).

Weisser Park Recreation Center, which is open between 5 p.m. and 9 p.m. from June

14th to Aug. 3rd, has two bumper pool tables, two ping pong tables, two mini pools, 15 small box hockey, and a restroom. The center sponsors recreation programs which is basical-

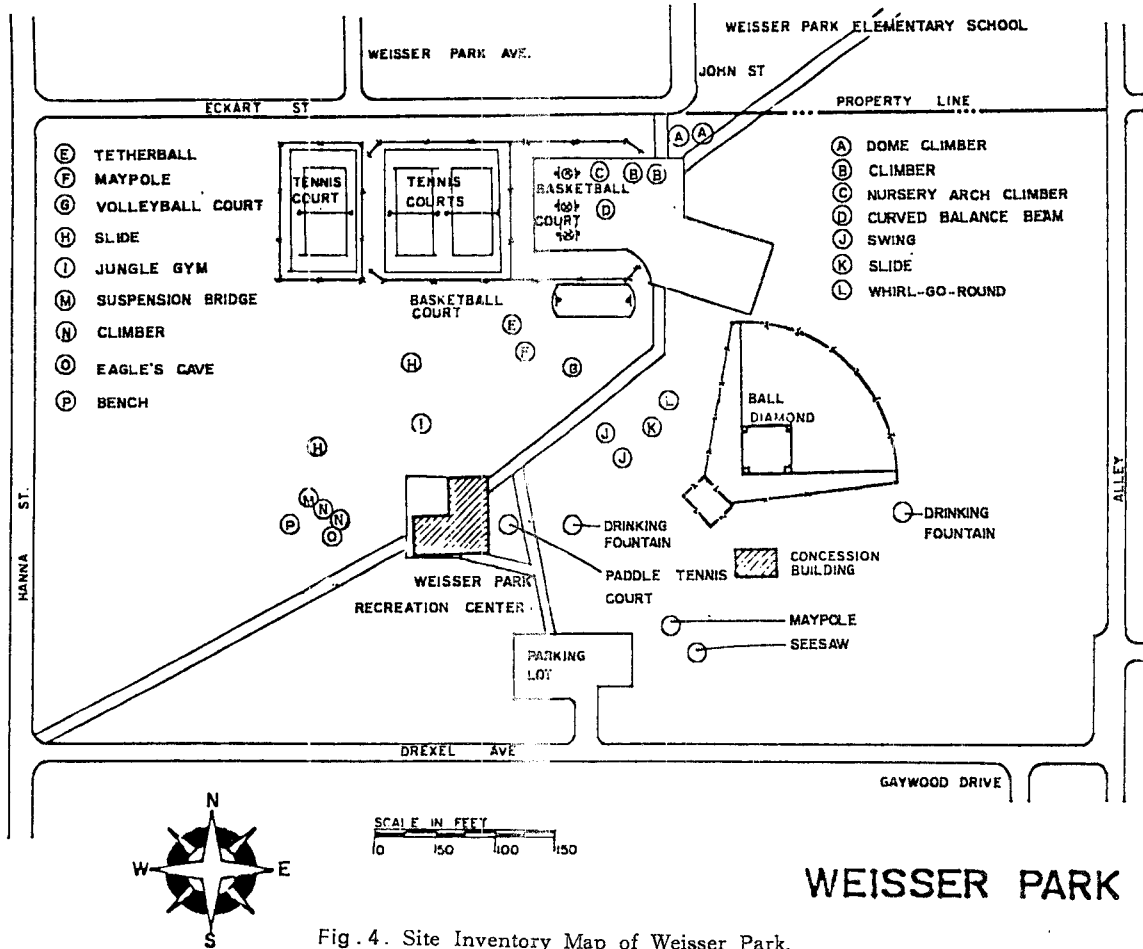


Fig. 4. Site Inventory Map of Weisser Park.

ly suited for the 3 to 16 years old age bracket. The majority of residents around this park are black and the ratio of under 19 years old is relative high (Table 1).

1-5-4. Lakeside Park

Lakeside Park is located in a residential area with an area of 23.81(Fig. 1, Fig. 5). The Lakeside Park recreation program provides a rose garden walk in June, playground programming from 9 a.m to 4 p.m. Monday through Friday from June 13rd to Aug. 2nd, and tennis lessons for under 19 years old. Almost all of the residents around this park

are white (Table 1).

2. METHODOLOGY AND DATA ANALYSIS

2-1. METHODOLOGY

2-1-1. Interviews

Interviews with the Director of the Parks and Recreation Department of Fort Wayne, maintenance men from two parks, and users of the parks were held during July and August, 1984.

Topics such as management of parks, the Director's opinion about underuse of parks, recreation programs for each park, and participation of citizens in the planning of parks

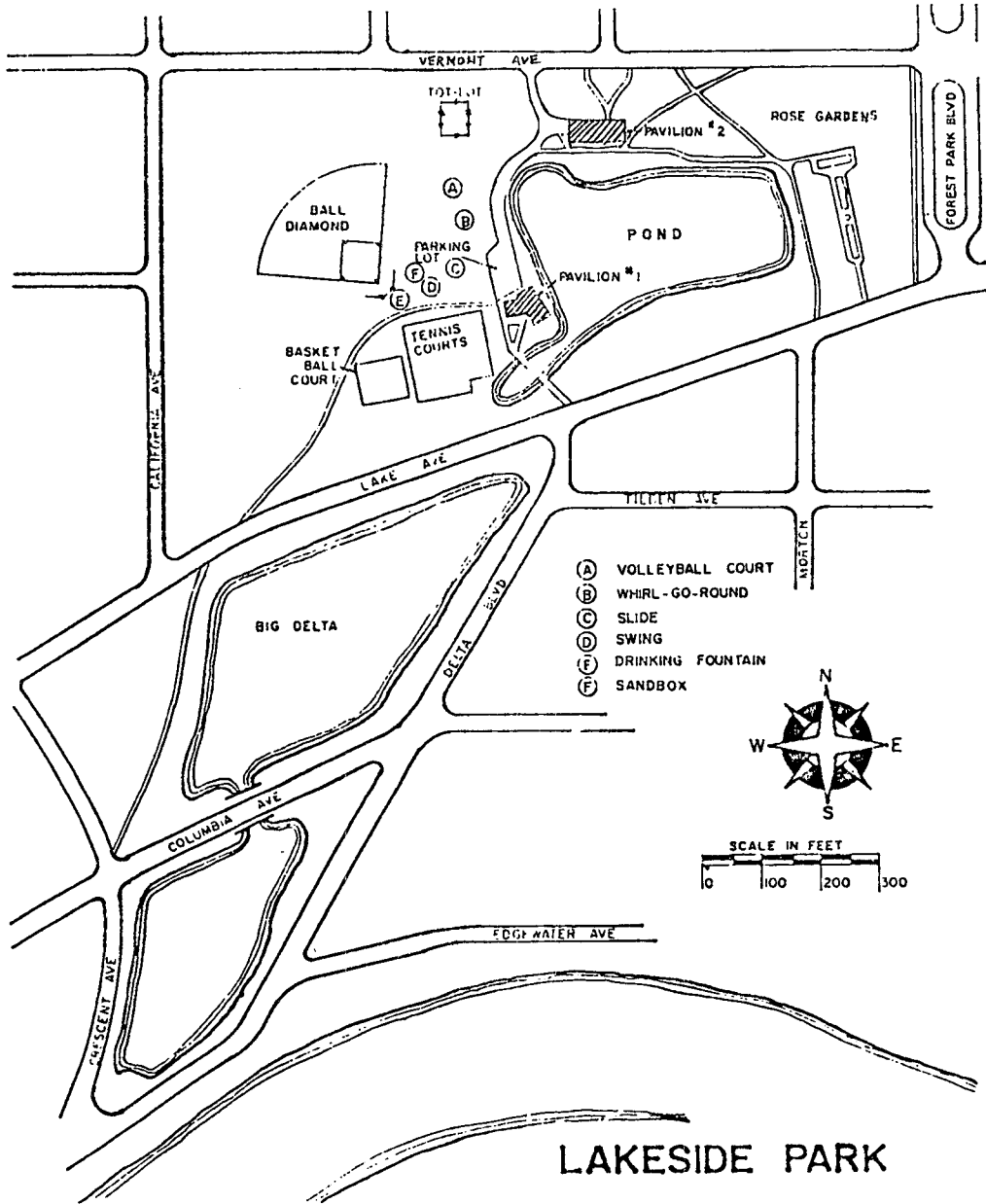


Fig. 5. Site Inventory Map of Lakeside Park.

were discussed. To find out more details about park management, interviews with maintenance men from the parks were held. Certain interviews with users on the site provided knowledge about their preferences of certain parks.

2-1-2. Questionnaires

Two methods were used in collecting data by questionnaire mailing questionnaire and on-site circulation. Two hundred seventy five filled-out questionnaires were obtained.



### 1. mailing questionnaire

Sampling was conducted by following procedures:

(1) A list of residents, living at each chosen study site, taken from the 1983-84 Cole Directory for Fort Wayne (Anonymous, 1984), a street directory arranged by street name and house number, served as a sample frame. The systematic sampling technique using random start was used to obtain the sample size.

(2) From the sample frame 150 households were selected from each of the four chosen sites. The number of questionnaires to be sent was decided in proportion to the total block population to select residents with equal probability. Once selected, any one of the household members could fill out the questionnaire; therefore, the unit of analysis was individual.

These questionnaires were sent on two different dates, consisting of a questionnaire with a brief statement of the purpose of the study, and a self-addressed stamped envelop. Sunday was chosen as the mailing day in order that the residents would receive the letters on Tuesday. Sixty eight questionnaires out of the first 320 were returned (Weisser Park: 12 out of 80, Reservoir Park:15 out of 80, East Swinney Park:17 out of 80, Lakeside Park:24 out of 80). Forty four questionnaires out of the second 280 were returned (Weisser Park:9 out of 70, Reservoir Park:5 out of 70, East Swinney Park:15 out of 70, Lakeside Park:15 out of 70). A total of 18.7 percent of the questionnaires were returned.

### 2. on-site circulation

Questionnaires were handed out directly to park users on the site to collect real users' opinions. This was done two separate times in each of the four parks (on weekends and

during the week on sunny days). Forty questionnaires were collected at Weisser Park, 40 at Reservoir Park, 48 at East Swinney Park, and 35 at Lakeside Park. A total of 163 questionnaires were collected through this method.

### 2-1-3. Direct Observation

To reinforce the accuracy of the data, direct observation and field notes were conducted on-site. Observation and distribution of questionnaires were done on the same days. Observation provided direct insight about activities of the users at each park.

To calculate the total number of users at each parks, a head count was made. Because it was very hard to count all the users at each park, the number of users were counted per hour.

### 2-2. ANALYTICAL PROCEDURE

All returned questionnaires were analyzed by the SCSS computer program and field notes were added to reinforce the accuracy of data. The data from each park were analyzed in terms of age, sex, race and income of the users and residents around the parks in order to identify the difference of each group more specifically.

Three approaches were used to analyze and to compare the data. In the first, arithmetic means of the response to each question were calculated. Arithmetic means, exhibiting a comparative difference of over ten percent within the categories of age, sex, race and income at each park, were then chosen.

In the second approach, the data of heavily used parks were compared with the underutilized parks to find out the reasons for different use intensity of each park and to find the

common elements.

In the third approach, the data of heavy and underusers were analyzed to find out the differences of their activities.

### 2-3. ANALYSIS OF REASONS FOR USE OF PARKS

More users come to enjoy the passive recreational activities than the active recreational activities in the parks. Especially the users like to enjoy the natural qualities of the park's beauty and to quietly relax.

No differences were found between the

heavily used park group and underutilized park group in user patterns, yet user patterns were different according to race. Whites like relatively passive activities while blacks like more social and active recreational activities.

From more detailed analysis, it was found that males like both active and passive activities, and females like the social activities. Black and young people under 19 years old who are in physically good condition like active activities. White and elderly people preferred the passive activities. No great differences were found existing due to the user's income bracket. Although the low income

Table 2. Reasons for Using Park

	Percent Participation			
	Reservoir	E. Swinney	Weisser	Lakesied
Passive Activities				
Natural Qualities and Beauty	32.7 (90)	47.3 (130)	21.8 (60)	65.1 (179)
Quiet Relaxation	52.4 (144)	63.3 (174)	41.8 (115)	60.7 (167)
Supervise Children	30.5 (84)	20.7 (57)	27.3 (75)	26.2 (72)
Read	17.5 (48)	17.5 (48)	5.5 (15)	13.1 (36)
Active Activities				
Jogging	24.0 (66)	10.2 (28)	21.8 (60)	11.6 (32)
Sports	24.0 (66)	19.3 (53)	27.3 (75)	16.0 (44)
Biking	17.5 (48)	29.5 (81)	18.2 (50)	18.5 (51)
Program of Park	28.7 (79)	8.4 (23)	21.8 (60)	2.9 (8)
Social Activities				
Meeting /Making Friends	32.7 (90)	10.2 (28)	47.3 (130)	17.5 (48)
Card	2.2 (6)	0.0 (0)	12.7 (35)	0.0 (0)
Eating and Socializing	19.6 (54)	26.5 (73)	34.5 (95)	11.6 (32)
Other				
No Choice Except Park	26.2 (72)	10.2 (28)	30.9 (85)	7.2 (20)

note: Numbers in Parentheses are the numbers of respondents.

group liked active and social activities and high income groups liked passive activities, the difference is not significant.

### 2-3-1. Natural Quality and Beauty, Quiet Relaxation

The high preference of E.Swinney Park and Lakeside Park users for passive activities was due to white's high preference for passive activity (Table 1, Table 2) and to the good scenery, such as ponds, in the parks. These natural and artificial factors encouraged people to use the parks. Special features of Lakeside Park are the well-maintained rose garden and the pavilions. Many people come to Lakeside Park just for the rose garden. The rose garden provides a setting for many ceremonies, such as weddings. Pavilions at this park provide the place for neighborhood picnics. The number of pavilion users within a group was usually over twenty; these groups usually stayed there many hours with talking, eating and playing games. Such ceremonies and neighborhood picnics provide good opportunities to use the park more heavily.

Quiet relaxation is related to the question of natural qualities and beauty of park. Whites make up the main users at E.Swinney Park and Lakeside Park. They appear to prefer this factor. One of the reasons for the low percentage of this factor in Reservoir Park is due to the heavy traffic around the park. It provides both poor visual quality and noise. In Weisser Park's case, so much emphasis is placed on sports and children's playing facilities that quiet relaxation is limited. A trend identified during this survey seems to indicate that people over 55 years old do not like quiet relaxation (percent of respondents whose main reason for use of park is quiet relaxation by

age: Reservoir Park - over 55 years 71.4%, ave. 52.2%, East Swinney Park - over 55 years 37.5% ave. 62.7%, Weisser Park - over 55 years 0% ave. 43.4%, Lakeside Park - over 55 years 47.5% . ave. 61.2%). The survey made by Godbey and Blazey (1983) reinforce this trend.

### 2-3-2. Supervising Children

Benches and play equipment are indispensable for the children and their supervisors. Benches extend supervisor's stay in the park and provide a good opportunity for adults to make friends. There is insufficient play equipment at both Reservoir Park and E.Swinney Park, and insufficient benches at both of the four parks. Twenty three percent of total respondents answered that they came to the parks with their children, but no benches were found.

### 2-3-3. Sports

This study found sports to be a high preference factor for blacks. Particularly basketball courts were used heavily: this was partly because basketball games can be played without full teams.

Jogging, like the other active recreation activities at Reservoir and Weisser Park, was a common use of the park. White people who live around these two parks support this preference for jogging (Reservoir:0%, Weisser:0%). Many people made short visits to the parks for drinking water and relaxation. Limitations were noted for this factor at E.Swinney Park, where the drinking fountain was broken and at Reservoir Park where the Community Center is open only for a restricted time.

#### 2-3-4. Programs of Parks

This study revealed that blacks participate in recreation programs more than whites (Preference of Recreation Program by Race – Reservoir: white 10%, black 32.3%; Weisser park:white 14.3%, black 23.8%), where the general recreation program is for the under 16 year old category. By direct observation, children liked play activities with adults. It was noticed, on site, that almost all young children in the area were brought together by an instructor's whistle at the beginning of a recreation program. The children's playing time was increased much with adult participation.

#### 2-3-5. Eating and Socializing

Eating and socializing were also high priorities at all parks. By direct observation, people used East Swinney Park just for eating, and arrived by car (43%). But the majority of the users stayed and ate in their cars because the picnic tables were located in remoted areas. In Weisser Park and Lakeside Park, many people ate in the park as families. Each family had a good chance to meet and talk with one another. The difference between Weisser and Lakeside Park concerning eating was that the picnic tables in Weisser Park were gathered in one place so that many families ate together, while at Lakeside Park, the tables were dispersed. Maybe this was due to the black's high preference of social activities.

#### 2-3-6. No Choice except Park

According to survey results, many people, especially black people, came and used parks because they did not have any enjoyment except the park. A high percentage of those under 19 years old, and persons in the low

income category also used the park because of the same factor.

#### 2-4. ANALYSIS OF UNDERUSE OF PARKS

This section of the analysis was divided into two areas: averaging the total number and analyzing the persons given by the underusers. Underusers are defined as the persons who use the parks under two times per week. Generally, the major reasons of underutilization of the parks are solvable: no attraction in the park, poor maintenance, trash, vandalism, crime, no friends to go with and the age differences of the park users. No attractions in the park and vandalism are the most important reasons for most users. An interesting finding of the survey is that the underuser's reasons for discouragement to use parks are not always higher than average in many cases (Table 3).

##### 2-4-1. No Attraction in the Park

The idea of attraction in the park is somewhat abstract. This means the underusers are not satisfied with their parks. Especially underuser feel this strongly. No attraction in the park can include the other categories of poor maintenance, trash, vandalism, and crime in the park.

##### 2-4-2. Poor Maintenance

Many facilities at each park are poorly maintained. Frequently used facilities are damaged easily. Damaged facilities discourage the user from enjoying them. In spite of the similar preferences for expressed for tennis at both Weisser Park and Lakeside Parkj(Weisser: 19.0%, Lakeside: 18.9%), tennis courts at Lakeside Park were used more intensively. That was because of the good maintenance of the courts and the provision of tennis lessons

Table 3. Reasons of Underuse of Park

	Percent of Reasons for Discouragement in Park use			
	Reservoir	E. Swinney	Weisser	Lakeside
No Attraction in the Park	22.2 / 29.5 (61) / (81)	11.3 / 22.2 (31) / (61)	20.7 / 18.2 (57) / (50)	5.5 / 12.4 (15) / (34)
Poor Maintenance	12.0 / 5.8 (33) / (16)	13.8 / 18.5 (38) / (51)	25.8 / 18.2 (71) / (50)	12.4 / 4.4 (34) / (12)
Trash	12.0 / 5.8 (33) / (16)	10.2 / 7.3 (28) / (20)	24.0 / 18.2 (66) / (50)	9.5 / 8.4 (26) / (23)
Vandalism	20.4 / 23.6 (56) / (65)	13.8 / 11.3 (38) / (31)	10.2 / 18.2 (28) / (50)	20.7 / 20.7 (57) / (57)
Crime	12.0 / 17.5 (33) / (48)	20.4 / 14.9 (56) / (41)	10.2 / 0.0 (28) / (0)	17.5 / 16.7 (48) / (46)
No Friends to go with	12.0 / 23.6 (33) / (65)	8.7 / 18.5 (24) / (51)	10.2 / 18.2 (28) / (50)	4.0 / 8.4 (11) / (23)
Age differences of User of Park	10.2 / 17.5 (28) / (48)	6.2 / 14.9 (17) / (41)	13.8 / 18.2 (38) / (50)	4.0 / 4.4 (11) / (12)
Too Crowded	1.8 / 5.8 (5) / (16)	6.2 / 3.6 (17) / (10)	10.2 / 9.1 (28) / (25)	10.9 / 4.4 (30) / (12)
Too Far	1.8 / 5.8 (5) / (16)	13.8 / 7.3 (38) / (20)	1.8 / 0.0 (5) / (0)	8.0 / 8.4 (22) / (23)
Do not Know Where Park is	1.8 / 5.8 (5) / (16)	2.5 / 3.6 (7) / (10)	0.0 / 0.0 (0) / (0)	1.5 / 0.0 (4) / (0)
Poor Access	1.8 / 0.0 (5) / (0)	5.1 / 0.0 (14) / (0)	6.9 / 0.0 (19) / (0)	2.5 / 0.0 (7) / (0)

note: A/B A: Average. B: Underuser' data

Numbers in parentheses are the numbers of respondents

in Lakeside park. At Weisser Park, the reverse was found. To elderly people over 55 years old, poor maintenance was an important discouraging factor to park use (Reservoir: 23.1%, E.Swinney: 15.4%, Weisser: 25%, Lakeside: 37.5%). Other poorly maintained facilities included the restrooms. All parks,

except for E.Swinney Park, had a restroom. Although every restroom was clean, most adults did not want to use them because of their bad odor.

### 2-4-3. Trash, Vandalism

Trash was another serious problem at each park. The major problem in this category was littering. Each park had many 55 gallon drums used as trash cans. However, many trash piles were found in the pond throughout the grounds at Reservoir Park. The pond water was so dirty that no fish were observed being caught by those fishing. The bad quality of the pond was given as one of the major reasons for underutilization of Reservoir Park. Poor maintenance has some relation with vandalism. Vandalism was found at every park. The most common vandalism was painted graffiti on the walls.

### 2-4-4. Crime

Users of E.Swinney and Lakeside Park feel stronger than users of the other parks about crime being an important discouragement factor to the use of these facilities (Table 3). By direct observation, many teenagers flocked together after sunset at Reservoir and Weisser Park to socialize. Some smoking and drinking was observed. The users reported the reason for a high response regarding crime at E.Swinney Park was because of a kidnapping incident a few years ago.

### 2-4-5. No Friends to go with/Age Difference of User of Park

Distinct reasons for underuse of the parks were that there were no friends to go with and the age difference between the park users. Females had serious problems in first category (Reservoir: male 3.3%, female 20.7%; E.Swinney: male 2%, female 22.2%; Weisser: male 0%, female 17%; Lakeside: male 2.7%, female

5.4%) Men over 55 years old responded second category (Reservoir: 7.7%, E.Swinney:15.4%, Weisser:25%, Lakeside: 0%).

### 2-5. ANALYSIS OF DISLIKE OF PARK RECREATIONAL PROGRAM

Recreational programs provide an opportunity for the user to socialize often through recreational classes for the users, especially for children. Children like to play with children and playing is an important method of learning. One survey of the entire city was conducted by the Recreation Department of Fort Wayne to find out the user needs of parks (Park Master Plans for the Fort Wayne and Allen County, 1979). The first ranking item of this survey (25%) was to have more organized recreational programs, and the third (16%) was additional recreational facilities. Most of the respondents wanted a sports recreational program of more organized nature. Tennis, swimming, and baseball were chosen as the most desired three of all sports.

In this analysis, E.Swinney Park was not included, because this park did not have any programs. More users liked the programs at Reservoir and Weisser Park than the users at Lakeside Park. The reasons for high user preferences for recreational program at both two parks are (1) children liked the recreational program (Reservoir: 100%, Weisser: 81.2%, Lakeside: 77.8%), (2) major users of the park's recreation program were children and blacks (Table 1) and (3) the population ratio of children for the two parks was high.

Other major reasons for disliking the recreational programs were due to a lack of interest in the programs (Reservoir: 40%, E.Swinney: 32%, Lakeside: 43.9%) and to a sense of being too old to enjoy the recreation

programs (Reservoir: 31%, E.Swineey: 19.2%, Lakeside:17.1%). Each Park's recreation program was organized basically for users under 16 years old. As a result, many young users were reported to enjoy the recreation programs. Young users' high percentage of lack of interest at Weisser Park was because of it being considered over-crowded. By direct observation, many children were gathered in the park and waited for their opportunity to participate in these programs during summer. Lakeside Park's case was different. Whites do not like the recreational programs in the parks (Reservoir: white 22.0%, black 60%; Weisser: white 25.0%, black 58.3%; Lakeside: white 14.6, black 25.0), and total percentage of

black residents are very low (Table 1). Because there was no community center at E.Swinney Park and Lakeside Park, users could not find a place to gather together and thereby lost an opportunity to enjoy the programs. Community centers were identified as the central place to meet and gather. In the case of Reservoir and Weisser Park, many teenagers were crowded in the community center during the hours of operation.

## 2-6. ANALYSIS OF SPORTS PREFERENCE

A general tendency for sports preferences was displayed by the racial groups rather than by the heavily used parks group (Table 1,

Table 4. Sports Preference

	Percent Participation			
	Reservoir	E.Swinney	Weisser	Lakeside
facility - oriented sports				
Bowling	20.4 (56)	29.1 (80)	20.7 (57)	31.3 (86)
Swimming	35.6 (98)	53.1 (146)	36.4 (100)	58.2 (160)
Golf	6.9 (19)	17.8 (49)	8.7 (24)	16.4 (45)
Hiking	27.3 (75)	31.6 (87)	13.8 (38)	28.4 (78)
Camping	13.5 (37)	27.6 (76)	13.8 (38)	35.3 (97)
Fishing	40.7 (112)	42.9 (118)	37.8 (104)	41.8 (115)
Boating	10.2 (28)	24.0 (66)	10.2 (28)	28.4 (78)
non -facility - oriented				
Tennis	18.5 (51)	21.5 (59)	18.9 (52)	18.9 (52)
Softball	37.5 (103)	17.8 (49)	24.0 (66)	26.9 (74)
Football	30.5 (84)	12.7 (35)	24.0 (66)	13.5 (37)
Baseball	25.5 (70)	16.4 (45)	34.5 (95)	18.9 (52)
Soccer	8.4 (23)	10.2 (28)	3.3 (9)	8.0 (22)
Basketball	36.4 (100)	16.4 (45)	60.4 (166)	16.4 (45)
Volleyball	20.4 (56)	16.4 (45)	22.5 (62)	35.3 (97)
Table Tennis	15.3 (42)	3.6 (10)	17.1 (47)	9.5 (26)
Handball	12.0 (33)	7.6 (21)	13.8 (38)	1.5 (4)
Archery	1.8 (5)	2.5 (7)	6.9 (19)	4.0 (11)
Roller Skate	35.6 (98)	22.9 (63)	17.1 (47)	18.9 (52)

note : Numbers in parentheses are the numbers of respondents.

Table 4). Whites liked facility-oriented-sports while blacks displayed a non-facility-oriented-sports preference.

Although only two parks, Weisser Park and E.Swinney Parks, have paved road, a high preference for roller skating was exhibited. By direct observation, many children came to the parks by bicycle just to pass through or to drink water.

The females' choice for sports is comparatively lower than the male. Females did not prefer to participate in physically radical sports such as basketball, football, but liked less physical sports, such as volleyball and roller skating.

Persons between the ages of 19 to 29 years are the main users group of the sports facilities. Similar figures in the survey indicated the age group of 30 to 55 years olds and the age group of 19 to 29 years old preferred sports as an activity. But by direct observation, almost all of the persons who enjoyed sports were teenagers and under 30 years old. The similar preferences of each group is due to the inclusion of being a spectator of sports. Although the survey indicated elderly users preferred active sports less, some sports such as fishing, boating and hiking were preferred.

### 3. CONCLUSION

A majority of the people surveyed (67.2%) think neighborhood parks are indispensable to their lives. Even the underusers of the parks think in a similar fashion (40%). 51.8% of the total respondents agreed to the proposition of raising taxes in order to improve the condition of their neighborhood parks. Some neighborhood parks, however, are not used heavily.

#### 3-1. ENVIRONMENTAL AND SOCIAL FACTORS

##### 3-1-1, Poor Access

The river, earth mounding and the busy frontage streets at Reservoir Park and E.Swinney park provide poor access to each park. Poor access to these parks is the main reason for their underuse. Therefore the main users of E.Swinney park are not from the neighborhoods near this park. Forty three percent of the total users of W.Swinney park come to the park by car, while 31.7% of respondents come to the park on foot and/or by bicycle.

##### 3-1-2. Park Use by Race

In spite of the fact that half of the residents who live near Reservoir Park are white, few white people use it. A similar situation was found at Weisser park. At Weisser park no whites were noticed using the park.

##### 3-1-3. Park Use by Age group

The ratio of children in the surrounding neighborhood effects park use intensity. It was found that major users of each park were children and teenagers, except E.Swinney park, and 25.6 percent of the total respondents use the parks for supervising children. In spite of the high ratio of under 19 year olds, Reservoir Park does not have enough facilities which they desire. E.Swinney park does not have enough facilities for users, also.

#### 3-2. USER SATISFACTION WITH THEIR NEIGHBORHOOD PARK

##### 3-2-1. User Need

Most every one comes to a park for enjoyment. parks should provide for a variety of entertainment. One of the best ways to



improve the condition of parks is to keep abreast of the user's needs and desires, and to eliminate factors that would discourage the use of the park. Every neighborhood is changes over time. Therefore, user needs change. Periodic surveys of demographic conditions are important in order to provide up-to-date data on user needs.

### 3-2-2. User Tendencies

One of the tendencies of user preference is resource-oriented, in both active and passive activity, especially for whites and underusers. The heavy use of Lakeside Park verified the fact that good scenery and special facilities such as rose garden, large flower bed and pavilions can lead people to use parks. By direct observation, many people came to this park from other neighborhoods, and 21.9 percent of users came to the park by car.

Survey results show that whites like facilities-oriented sports and blacks like non-facilities-oriented sports (table 1, Table 4), and that males like active activities and females like passive activities. Underusers like active activities when compared to the other groups. This means that underusers are not satisfied with the existing sports facilities. One method to lead whites to parks is to build sports complexes such as swimming pools and bowling center near the park.

### 3-2-3. Design Solution

It was found that users like passive activities more than active activities. Users especially liked the natural qualities and beauty of the parks, and quiet relaxation provided by them (Table 2). To achieve this purpose, parks should be designed to separate areas by function to avoid any conflict of use such as

passive area and active area. Active area may be subdivided for a sport facilities area and children's playground. None of the parks, except Lakeside Park, have a transition zone from active space to passive space. The zone is created naturally by the lake in the Lakeside Park. In the passive area a rose garden and large flower bed are located. Play equipment and sports facilities are located on the opposite side of the lake. The other parks do not have such a transition zone. In Reservoir Park, all the facilities, including the merry-go-round, slide, basketball courts and the Cooper Community Center, are dispersed. It appears that all the facilities at Reservoir, Weisser and E.Swinney Parks are located in the open spaces between the existing vegetation. Furthermore, there are not enough trees at Reservoir park and E.Swinney Park. They have too much open space. Every park needs to have a variety of trees as well as shrubs.

There are many ways to extend the amount of time a user will stay in the park without spending much money. Drinking fountains, benches, trash cans and restrooms are good examples, because one of the major reasons for park use is that of social activities, and trash in the park is one of the discouraging factors in park use.

By direct observation, the most intensively used facilities in the park were drinking fountains. But every drinking fountain was poorly designed and only the two heavily used parks had them. While there was considerable need for benches at all four parks, every park did not have a sufficient number of benches except picnic tables. With the proper amount of benches to satisfy users need designing benches more flexibly may be one way to satisfy user needs. It will give users more choice to sit in a sitting pattern that pleases them. Marcus (1974) suggested that benches should

be provided with backs so that adults and children can really sit and rest; the benches should be located so that there is a view of some activity, or a pleasant distant view. In some locations, benches should be arranged in right-angled configurations for group conversation. In addition to benches, steps, retaining walls, etc., will be used for sitting, especially by children and young people.

Every park used 55 gallon drums as trash cans. It has been proven that properly designed, highly visible trash cans promote more cleanliness. Marcus (1974) said, "When children are outside the room, they will not go far to dispose of litter. Litter receptacles should be obvious and attractive, and not easily emptied by children. And should be close to play areas and sitting places."

Vandalism can be prevented by careful design using so-called "target hardening". Wise (1982) suggested three vandalism prevention methods. (1) to encourage an attitude that is incompatible with images or activities that lead to damage, such as planting flowers in a raised bed around sign; (2) to reduce the effects of natural process, like erosion, on which vandals can build by eliminating trouble spots; (3) to lessen the vandal's reward (e.g. metal road signs are especially good shooting targets because they make such a resounding "clang" when hit-plywood makes a far less satisfying sound).

### 3-2-4. Quantity and Quality of Facilities

Weisser park and Lakeside park have enough facilities for sports and children's plays. In spite of the low percentage of preference for Weisser Park in the survey (Reservoir : 39.2%, E.Swinney : 47.4%, Weisser : 38.2%, Lakeside : 60.6), Weisser Park was used heavily. The main reason of this is that Weisser

Park has enough equipment for children's play and sport facilities. This park obviously appeals to the under 19 year-old group, as they are the main users. It means Weisser Park needs to diversify in order to attract more users from other age groups. By direct observation, most of the users of this park were under 30 years old.

Females and persons 55 years old and over like sports which are not physically strenuous such as volleyball, roller skating, fishing, and hiking. The provision of such facilities is support of these activities could help to attract people to these parks. Weisser Park and Lakeside Park have volleyball courts. It was noticed by the survey that many people came to the pavilions in the Lakeside Park and that they usually enjoyed volleyball with both males and females playing together. Paving the dirt roads would be another way to stimulate the parks users to enjoy roller skating and bicycle riding more often. All the parks, except E.Swinney Park, are deficient in this area.

At Lakeside Park, most all age groups were present. This park has some unique facilities such as a rose garden, pavilions, a flower bed and an animal swing set. Such unique features attract many people to the park. Many parents brought their young children under 5 to this park because it had an animal swing set. This set was enclosed by a fence to separate it from other activities, and it provided enough benches for supervision inside the fence. The tennis courts of this park were used heavily because of good maintenance when compared to Weisser Park's. Frequently used facilities such as drinking fountains, basketball and volleyball nets are easily destroyed. Poorly maintained facilities are one of the elements that discourage park use. So with careful maintenance, existing facilities will be used

more efficiently.

Reservoir park and E.Swinney Park do not have enough facilities. E.Swinney Park has a lake, one seesaw, one swing and basketball courts. Reservoir Park has a merry-go-round, basketball courts, a lake and community center. Such a low quantity of facilities are not enough to induce people to use park.

### 3-2-5. Community Center and Recreation Program

The community center plays an important role as a gathering place; it provides indoor play equipment and recreational programs. Reservoir Park and Weisser Park each have one community center. By direct observation, many young users under 16 years old came to the Cooper Community Center to use indoor play equipment during opening hours but few users were found during daytime at the park. At Weisser Park, many young users under 16 years old gathered and waited for a turn to use the indoor facilities, but there was no recreational program for people over 16 years old. A variety of recreational programs contents will stimulate the underusers who now are not attracted to the park. Also, recreation programs year around will increase the users at each parks. Recreation programs can provide a good opportunity to make friends and help to organize sports teams. The two main reasons for underuser's dislike of park-no friends to go with and the age difference of park uses-can be solved by providing diverse opportunities for making friends.

### Bibliography

1) Anonymous (1984):1983-84 Cole Directory for

Houston Lincoln, NE: Cole Publications.

- 2) Department of Planning and Department of Housing and Urban Development (1972): Baltimore Community Renewal Program Interim Report: A Progress Report on the First Year of a Two - Year Program of Study Baltimore, MD.
- 3) Godbey, Geoffrey and Blazey, Micheal (1983): Old People in Urban Park: An Exploratory Investigation "Journal of Leisure Research" 15 (no.3): 229-224
- 4) Gold, Seymour M (1977): Planning Neighborhood Park for Use "Ekistics" 53(no.225): 84-86
- 5) Gold, Seymour M (1972): Unuse of Neighborhood Parks "Journal of Institute of Planner" 38 (no.6): 369-377
- 6) Marcus, Clare C (1974): Children in Residential Areas: Guidelines for Designers "Landscape Architecture" 65(5): 372-377, 415-418
- 7) Parks and Recreation Department of Fost Wayne (1979): Park Master Plans for Wayne and Allen County Fort Wayne, IN
- 8) Sanford, Henry and Dickson, John (1971): Mapping Children's Behavior in Residential Setting "Journal of Architectural Education" 25 (4): 103
- 9) U.S. Department of Commerce Bureau of the Census (1984): Statistical Abstract of the United States Washington, D.C.
- 10) U.S. Department of Commerce Bureau of the Census (1980): Census of Population and Housing Block Statistics Washington, D.C.
- 11) U.S. Department of Housing and Urban Development (1974): Urban Recreation Prepared for the National Outdoor Recreation Plan by the Interdepartmental Work Group on Urban Recreation Washington, D.C.
- 12) Wise, James (1982): A Gentle Derterrent to Vandalism "psychology today" 16 (sept.) 31: 38