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DELIVERING PARK AND RECREATION SERVICES  
IN URBAN AREAS

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**DELIVERING PARK AND RECREATION SERVICES  
IN URBAN AREAS**

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for the degree of  
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## **DELIVERING PARK AND RECREATION SERVICES IN URBAN AREAS**

### **INTRODUCTION**

There have been great strides in the creation of national forests, national parks, national wildlife preserves, and national shrines and shorefronts. However, a sense of recreational purposes has not emerged, especially in urban areas. The federal government has not made a commitment to the purpose that recreation serves in urban areas. It does not seem to concern itself with recreation at the local level. The federal government has become somewhat increasingly concerned with open space preservation. This concern is based on one of necessity. The destruction of natural areas with the loss of wildlife has become a matter for alarm.

Twenty years ago, it seemed that the federal government began looking to the recreation problems of cities. In 1969, the Secretary of the Interior, Walter J. Hickel, somewhat reluctantly, turned his attention away from the Guadalupe Mountains in Texas and began to focus attention to open space problems in Harlem. This examination led to the federal financing of outdoor recreation area studies in cities, and to some promise of future financing.(1)

The United States Department of Housing and Urban Development has also been studying the recreation needs of urban areas. However, the federal concern for leisure time in cities can be characterized as too little, but hopefully not too late.

For the most part, the provision by the public sector of leisure time and recreation opportunities for urban residents has been the responsibility of the municipal



government. Some have been successful in providing recreation facilities and programs, which enhance the quality of life in their communities, while others have not been able to satisfy their residents.

This paper attempts to look at how recreation facilities and services are delivered to urban residents by the municipal government. Does the local government have an obligation to deliver these services to its residents, and if so, how is this accomplished? The report identifies some of the issues and aspects of urban recreation which municipal governments should consider when planning new facilities and programs. It also then analyses a case study currently in progress in Grand Rapids, Michigan. The problem is discussed, staff findings and recommendations are presented and analysed, and an evaluation of their process completes the report.

## **THE CONCEPT OF URBAN RECREATION**

The primary function of recreation is the enrichment of living by enabling individuals to find outlets for self-expression and thereby to develop this intrinsic potential and achieve desired satisfactions. These satisfactions include adventure, friendship, a sense of accomplishment, the enjoyment of beauty, and the joy of creating -- all of which contribute to human happiness. Through recreation facilities and programs, people are helped to develop interests and skills which enable them to make constructive use of leisure, and which contribute to physical and mental well-being.(2)

The urban resident is often subjected to frustration resulting from traffic and pedestrian congestion, noise and air pollution, tension, and delay. Activities that provide pleasure and contentment are especially important for these people. On the other hand, urban life can be exciting, too, and recreation activities can contribute to this atmosphere.

Recreation should provide a change of pace for those who need or desire it.

There must be areas of tranquility for people who live with high tension in their daily lives, and there must be areas of active participation for those whose jobs are sedentary and who wish to stay active. However, there are also exceptions. Those who live with high tension may enjoy active recreation, while those who have sedentary jobs may choose to engage in passive recreation. Therefore, a major component in a total recreation program is diversity.

Cities have a great part to play in recreation. They provide opportunities for physical development for teenagers, young children, men and women in their middle years, and senior citizens. Whatever municipalities set forth, an overall plan can assist in the implementation of recreation services. It provides for continuity and can be organized in such a way as to provide pleasure to all citizens regardless of income and social status -- with special recognition of the hardships and lack of mobility characteristic of citizens in the least privileged neighborhoods. In these areas there is a particular need to escape the grim realities of daily life. There also exist the greatest obstacles to escaping.

Free time, or idle time, may be a few minutes now and then or it may represent the largest portion of life because of unemployment or retirement. These various kinds and lengths of time must be part of the calculation in planning for recreation.

It is not enough to regard recreation as a program designed merely to provide enjoyment and relaxation for citizens. Rather, it must be viewed as an opportunity to meet special needs and to influence the overall development of the residents. Well-planned recreation facilities and programs can contribute to the physical, mental, and sociological development of residents. This, in turn, can influence the city itself, creating a better environment in which people can live.



## NEED AND DEMAND

The needs and demands of the residents of an area can be met by municipal governments providing good park and recreation facilities and programs. There are, however, few objective measures to determine need and demand. The travel-cost method, developed by Marion Clawson and Jack L. Knetch, and the land-value method are two inferential willingness-to-pay techniques used to measure demand. These inferential techniques use market-generated data pertaining to some marketed good in an attempt to infer the value of the nonmarket good being analysed. Other types of measures such as statistical data, and listing facilities and programs can only give some kind of indication of the sufficiency of services. Municipalities can quite easily see that some communities lack facilities such as swimming pools and ball fields, but there are factors that are difficult to chart with statistical data which need to be considered.

Presently, the only measures that are used in assessing the quality and number of facilities and services are recreation standards and community surveys or questionnaires. Questions that arise when using these measures are: Are the present standards adequate for each particular community? Should standards change from community to community? Do what people say they need in a community, in a questionnaire, indicate a lack of knowledge of the possible choices? Is the response reflective of the time of year? (e.g., swimming pools may receive a higher priority in July than in January).

Recreation is an important method of supplying some of the things that are lacking or deficient in the lives of urban residents. Therefore, basic human needs of the residents must be understood to assist local governments in determining the need and demand for recreation activities.

## Low-Income Residents

When looking at the needs and demands of recreation in cities, there are different areas within the city that require certain considerations. The most critical are the needs and demands of people living in lower income areas of the city. Recreation is seen as useful in acting as a distraction to help deter the attention of the population from life in low-income areas. It is also helpful in ameliorating frustration.

Life in these areas of the city can be a grim and destructive experience. Housing often lacks certain amenities and usually forces large numbers of people to center their activities outside of the home. Unemployment tends to be high in these areas and results in a large amount of idle time available. This idle time could then be transformed into a constructive use of leisure time through the use of recreation facilities and programs provided by the local government. Self-image can also be poor in low-income areas. The majority of these areas are non-white and this has deprived large numbers of people of pride and upward mobility. The white-superiority syndrome common in the 1960s has left people in these areas with a poor self-image.

Health is also generally poor in these sections of the city. Transportation is difficult and usually out of the financial reach of many young people. Even when money or mass transportation is a not problem, there is often the disinclination to move, and an apathy that prevents families from seeking recreation opportunities outside of the neighborhood.(3) These people may also be ignorant of other recreation opportunities outside of their neighborhood, and/or may not be inclined to seek them.

These generally seem to be the circumstances that plague low-income areas, and that challenge the recreation leadership in urban areas. Recreation has a significant contribution to the quality of life of these areas. However, this contribution must be made in cooperation with many other kinds of programs designed to deal with the previously mentioned problems. Recreation is not the entire solution, but it can be an



important tool if used in conjunction with other services.

### **Middle-Income Residents**

Cities have had a problem keeping middle-income families in the heart of the city since the automobile began providing easy mobility. Suburban living has become very convenient for those who can afford to live there. These families have been able to find more spacious living, better schools, and a stable social environment outside of the central city. Recreation opportunities are easily accessible in these areas. The backyard, the school's extra-curricular activities, the neighborhood parks, and the golf and tennis clubs are all common recreational activities for many suburban middle-income families.

The recreation demand of families in these areas may be different from those in low-income areas. When there is more room for backyards there may be less demand for neighborhood playgrounds. However, there is still the need for playground and athletic facilities, as these facilities provide alternative activities that cannot take place in backyards. Day-care services, which provide recreation for young children, and day-camping also seem to be popular among middle-income families and could be seen as a high priority in recreation planning.

Vacations are also a primary activity of this group, usually during the summer months. Recent trends have also reflected the occurrence of shorter, more frequent vacations. The full-range of city facilities, ranging from parks to playgrounds, beaches to marinas, and museums to libraries, are the major recreational activities of middle-class residents.(4)

### **Upper-Income Residents**

The recreation demands for high-income residents is significantly different from

low-income and middle-income areas. An attractive environment for these areas is usually provided through tree planting and street beautification programs. Small and conveniently-located playgrounds for children are also important in these areas. The upper-income groups can afford to pay for their leisure time and can afford to engage in more leisure activities, but these activities must still be available to be paid for.

The theatre, concerts, opera, museums, and special programs in the parks attract wealthier families. Municipal efforts to encourage theatre and the arts, and to make access to these activities easy meet one of the major demands of upper-income groups. Opportunities for youngsters and adults to participate in active recreation programs should also be provided. These people may also have the need for athletic facilities.

Upper-income residents possess the resources to participate in almost any activity that they desire. This does not imply that the city does not have an obligation to provide facilities and programs in these areas, but there is less dependence on municipal programs in these areas than in other sections of the city.

## LEISURE TRENDS

A number of studies have been conducted relating social status with recreational pursuits among people in the United States. Many researchers have pointed out significant differences in activity as it relates to income. The greater the income, the wider the variety of choices. Lawrence G. Thomas has noted, "the enjoyment of, as well as the access to a variety of leisure activities is associated with an individual's socioeconomic group."<sup>(5)</sup> The association that Thomas has identified is that as income increases, the proportion of the population's participation in these activities increases. Data presented in Table 1 support this relationship. In the case of swimming, for example, 34 percent of the lowest income group participated in swimming activities

compared to 72 percent for the highest income group.

**TABLE 1**

**PERCENTAGE PARTICIPATING IN RECREATIONAL ACTIVITIES BY INCOME<sup>1</sup>**

| Activity         | All Incomes | Less Than \$5,000 | \$5,000–\$14,999 | \$15,000–\$24,999 | \$25,000–\$49,999 | \$50,000 and up |
|------------------|-------------|-------------------|------------------|-------------------|-------------------|-----------------|
| Swimming         | 53%         | 34%               | 39%              | 57%               | 68%               | 72%             |
| Bicycling        | 32          | 23                | 24               | 35                | 41                | 42              |
| Boating          | 28          | 16                | 20               | 27                | 39                | 43              |
| Jogging          | 26          | 21                | 20               | 27                | 33                | 37              |
| Tennis           | 17          | 12                | 11               | 18                | 22                | 37              |
| Golfing          | 13          | 6                 | 6                | 13                | 20                | 27              |
| No participation | 11          | 28                | 18               | 6                 | 4                 | 3               |
| Skiing           | 9           | 5                 | 5                | 7                 | 13                | 21              |

<sup>1</sup>Figures represent percent of respondents who participated in activity at least once in the previous year. Based on a sample of 5,757 persons 12 years and older, with interviews conducted from September 1982 to June 1983.

Source: *Statistical Abstract of the United States, 1985*. United States Bureau of the Census.

(Source: Developing with Recreational Amenities, Patrick Phillips, 1986.)

Francis P. Noe and Kirk Erickson state that among those receiving welfare there is a distinctly constricted style of leisure participation, a loss of autonomy, and a greater aloneness. The lack of income may constrain choice such that the leisure life of the lower-income groups may be a condition of disengagement, social isolation, and social disintegration.(6)

Differences in participation rates in recreation can also be attributed to differences in social status -- differences in background and experience, neighborhood cultures, and education. Robert Havighurst noted some interesting findings about leisure behavior among status groups:

1. Higher status groups are more pleasure-seeking in activities relative to lower status groups who tend to view recreation as time-killing.
2. The higher status groups associate status or prestige to their recreational pursuits, while lower status groups do not.
3. Higher status groups tend to have a more expansive set of interests in recreation than

do lower status groups.

4. The higher the status group, the more vigorous the pleasure-seeking.

5. The higher the status group, the greater the preference for new experiences in recreation.(7)

Several implications can be drawn from socioeconomic differences -- implications for planning, implementing, and evaluating recreation facilities and programs. Income is perhaps the greatest constraint to recreational fulfillment. Equipment needed for activities such as golf, football, tennis, baseball, and the like, are not readily available for all of the people in a community, especially those of low-income families. Local park and recreation departments may be able to provide assistance in acquiring the necessary equipment and offsetting, in part, the income constraint.

Preferences may differ from one area to another, depending on social status. The variety of activities preferred in one area may be different in another. For example, in a low-income area, the number and type of activities preferred may be different from a middle-income neighborhood. The local authorities must recognize that differences in preferences may arise because of the residents' income and lack of experience with other recreation activities. These agencies should take it upon themselves to offer wide variety of recreational activities and instruction programs in order to introduce low-income residents to new activities.

## **Recreation and the Family**

An important aspect of recreation and participation trends is the relationship between individual recreational behavior and family influence. Family relationships are thought to be particularly important to a meaningful use of leisure time. The family passes on the skills, values, and patterns of culture to its members. Interests and patterns



of recreation experienced during childhood form the basis of leisure preference in later years.(8)

Through numerous studies conducted by sociologists, a number of conclusions have been made. These include:

1. It may be that most leisure activities begin in the family.
2. Most family-oriented leisure may be unconditional (independent of work and freely determined) and complementary to work demands (not work-related but socially determined).
3. Children's leisure activities differ according to family socioeconomic status.
4. A child's developmental change with age differs with socioeconomic level of the family. At a particular age, the diversity of a child's leisure activities is greater in higher socioeconomic families.
5. The higher the socioeconomic status of the family, the greater will be the variety of family members' recreational interests.
6. Family relationships socialize the member's use of leisure time; recreational values formed in childhood tend to remain, and help form adult recreation behavior.
7. The family is only one of a series of important "communities" that guide a person's recreation choices.
8. A highly integrated, close-knit family situation may encourage more family activity, while a poorly integrated family situation may encourage more non-family activity.
9. For teenagers, most activities are away from the family.
10. The frequency of family recreation may be the important link to the occurrence of juvenile delinquency; juvenile delinquency is inversely related to the amount and quality of play between parents and children.(9)

Whether or not the local authorities consider the family as a recreation

determinant is their decision. If the family is valued as an institution, then recreation agencies may recognize this by planning for enlarged recreation facilities and programs for family needs. On the other hand, these agencies may not view themselves as the appropriate defenders of such values, and would recognize that demands for recreation in the city will probably continue to represent the wants of individuals as opposed to the wants of family units. In today's society, it would seem that a mix of the two philosophies is required. Facilities that offer a wide variety of recreation opportunities can encourage use by both individuals, as well as by groups and families.

### **Patterns of Leisure Time**

Patterns of leisure time vary. There are several different types that have been identified. These are summarized below.

1. There are large concentrated periods of two weeks or more. These can be divided into three different types:
  - a) For the employed adult and school children, there are vacations; adult vacations being spent in two week blocks and shorter, more frequent trips, and for school children there are summer holidays.
  - b) In lower-income areas, there may be a high unemployment rate; thus, many adults have large amounts of idle time available. The problem this presents is that this time should be filled with meaningful activities, which could provide a lift in morale and perhaps open doors for employment; and
  - c) The year-round leisure time with which older, retired citizens are faced. This group should be provided with activities that occupy their time in a constructive way, and also give them a feeling of self-worth.
2. Leisure time comes in the form of holidays and weekers. Several three- and four-day

weekends are present throughout the year. This time may provide for overnight trips or day-long excursions to areas away from home.

3. There is also a smaller amount of time available for mothers with young children during the morning or afternoon, for students after school, and for working adults in the evening. This time is available for visits to park areas, play fields, athletic facilities, cultural institutions, and other recreational areas.

4. There are fifteen-minute or half-hour play periods, which actually make up the majority of leisure time.(10)

It is important to consider all four of these patterns when organizing recreation programs and determining facility and open space needs.

Another aspect of recreation that is becoming more of an issue to municipal governments is that municipal recreation programs have to compete with the mass media, television, electronic video games, etc., for one's leisure time. Leisure time is channeled away from neighborhood parks and community centers by a whole diversity of glamorous leisure opportunities offered by the city and new technology. Shopping, theatres, dance halls, concerts, night clubs, etc., take a large amount of leisure time away from more traditional recreational activities.

Television, arcades, and home video games have seemed to take over the leisure time of children, teenagers, and, in many cases, adults. Many adults spend a great deal of their leisure time at home amongst their stereos, computers, televisions, video cassette recorders, and other electronic devices. It might almost be said that life in a city is time consuming, in and of itself. There are so many distractions, so many ways in which people can spend their leisure time that municipal recreation facilities and programs find themselves as weak competitors with more glamorous and exciting alternatives.

To develop an efficient pattern of recreation programs and provide needed facilities, sponsored by government or private voluntary agencies, it is important to

understand what the goals of such programs should be and what amount of time is available for various age groups and families. It is only after the living patterns of the residents of a city are understood that the pattern of recreation facilities and programs can be set.

## **MUNICIPAL GOALS**

Since recreation and leisure time are fundamental human needs and government has an obligation to assist in fulfilling these needs, municipal governments could provide for and encourage the constructive use of leisure time. A well-rounded recreation program with supporting facilities are important to an area's future in encouraging people to use leisure time for physical and mental development, as well as for relaxation.

Generally, good recreation programs should have one or more of the following as their goals:

**1. Enhancing physical fitness.** Many of the opportunities for physical development which are present in rural areas have been eliminated in urban areas. There are many conveniences of city-life that have removed the need for physical exertion and those activities which are important for physical well-being. For example, people in rural areas are more likely to walk to the general store, whereas urban residents might get in the car and drive to the 7-eleven three blocks away. One of the goals, then, of municipal government is to restore some of this missing physical experience.

**2. Increasing social adjustment.** Providing opportunities for different age groups to meet others and spend time together should be another municipal goal regarding recreation. Young people want to go to functions and activities where they can meet other people their same age. Older people also need the companionship of others. It



should be a municipal goal to provide opportunities for social contacts for people of all ages and social classes in the city.

**3. Providing opportunities for self-expression.** The development of creative ability is a sound municipal goal. Self-expression through arts and crafts, music, dance, dramatic performances, the satisfaction that can be derived from quality productions, and the skills that are developed are all desirable characteristics.

**4. Providing diversion and relaxation.** Life in urban areas can be tension-filled and hectic. It should be a municipal goal to provide opportunities for urban residents to relax and get away from stressful activities. It provides the opportunity for release, which contributes to healthier people and an improved quality of life.

**5. Complementing the curricula of the formal education institutions.** Enhancing educational opportunities is an important municipal goal. Pre-school programs operated in playgrounds can prepare children for working together and can help them develop important skills. Recreation leaders can use sports activities to stimulate reading and arithmetic ability, and to develop leadership and confidence that will increase learning capacity.

**6. Informal education.** Museums, performing arts centers, scientific institutions, libraries, passive recreation areas, etc., can be used by municipal recreation leaders as aids in programming. Introducing the cultural life of the city through these centers, and providing exhibitions of art and performances of music, drama, and dance constitute a desirable goal.

**7. Improving the environment in which leisure time is spent.** The ecology of these areas should be conserved and made available; the natural areas, and plants and wildlife of the region should be preserved for the enjoyment, pleasure, and education of residents; and an improved esthetic environment in which leisure time can be enjoyed should be created.(11)

Now that some theory behind the reasoning and methods of providing recreation services to urban residents has been discussed, it is now applied to a case study. The case study presents a process of planning for new recreation facilities in Grand Rapids, Michigan. It discusses a municipal government's efforts to determine if new facilities are required and, if so, where they should be located.

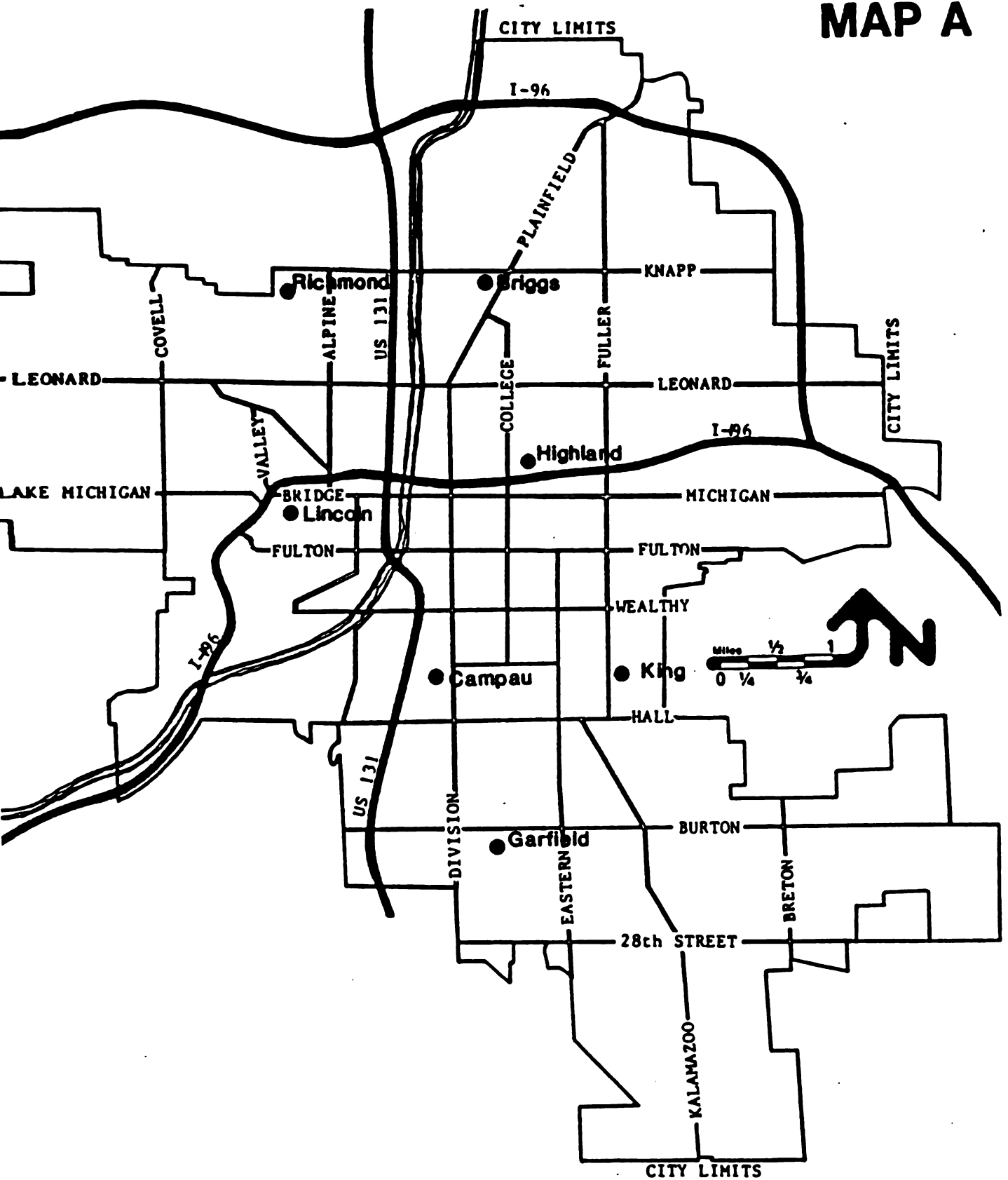
## **GRAND RAPIDS SWIMMING POOLS CASE STUDY**

Swimming pools are important in helping to meet the recreation needs and demands of urban residents. These facilities provide places where people can relax and escape from the pressures of work and urban living. People can also use outdoor pools to stay active and physically fit. Pools can provide places for social gatherings, where people can get together with other residents, as well as meet new people. Outdoor swimming pools are recreation facilities that can be utilized by residents regardless of income and social status, but only if these facilities are well-planned.

The City of Grand Rapids, Michigan, currently maintains and operates six outdoor swimming pools (an additional one was closed in 1986). All but one of these pools exceed 32 years in age, with the oldest being 67 years old. The considerable age of all of these facilities poses both maintenance and use problems. City staff undertook a review of conditions at all seven pool sites in 1986, after one of the pools was closed for health and safety violations. Map A indicates where these seven sites are located.

The analysis of the existing pool facilities revealed that Briggs pool could not be reopened without extensive and costly renovation. This pool was closed in 1986 because of structural problems and health code violations. It was also determined that Richmond and King pools are in serious danger of closure in the very near future. The pool at Garfield park is the newest pool and does not pose any serious problems at the present

# MAP A



## CURRENT OUTDOOR POOL SITES

IN GRAND RAPIDS, MICHIGAN

time. Structural problems similar to those at the Briggs pool have worsened at Richmond and King. There are also three smaller, above-ground pools at Campau, Lincoln, and Highland parks. Mechanical and structural concerns are also present at these facilities.

As a result of this situation, the City government is being confronted by the neighborhood associations, who want clean, safe pools for city residents. City officials must decide what approach to take in alleviating the problems. Do they renovate the existing pools to enable them to meet health and safety standards? Or do they construct new pools? Is there enough of a demand to warrant new capital facilities? If new facilities are constructed, how does the city ensure that they will be used? Will the City be satisfying a true need, or will it only be keeping a small number of boisterous residents quiet? These are several questions that city officials must answer in the process of deciding how to solve their swimming pools problem.

Staff from the Grand Rapids Parks and Recreation departments conducted an extensive study evaluating the swimming facilities and programs available to the public in their community. This study included the analysis of the condition of the outdoor pools, operating costs, aquatic programming, and an assessment of pool needs for the city.

Current pool usage is an area that warrants considerable examination from several viewpoints. These include:

1. Current costs of maintaining and operating the outdoor pool system.
2. The role of outdoor swimming in the overall provision of recreation services.
3. Population demographics, to assess needs and dispersment of facilities.

## **ATTENDANCE AND OPERATIONS**

### **Attendance**

Overall usage of City operated swimming pools has declined 79 percent from 1960 to 1985 (see Figure 1 and Table 2). There are several explanations for this phenomenon. These include:

1. The increase in the number of private, backyard pools, which means that people do not have to journey to the public pool to swim.
2. The increased use of automobiles for excursions on improved roads to other swimming sites, primarily Lake Michigan and northern cottages.
3. A decrease in the population of youths who utilize swimming facilities (generally 20 years and younger).
4. The age of the public pool facilities and the lack of appeal that they may have to potential users. The mechanical and structural problems with these pools have led to health and safety code violations, which are beyond the control of general maintenance.
5. The lack of heated water and amenities that can make outdoor pools more attractive.

Pool design has evolved from the simple concrete pool surrounded by a chain link fence to the colorful, multi-activity, family recreation pools common today. The new design offers more than swimming activities for children, teenagers, adults, and seniors, regardless of whether they are in groups or alone. These new facilities attract a wide range of people because of the diversity of use that they offer.

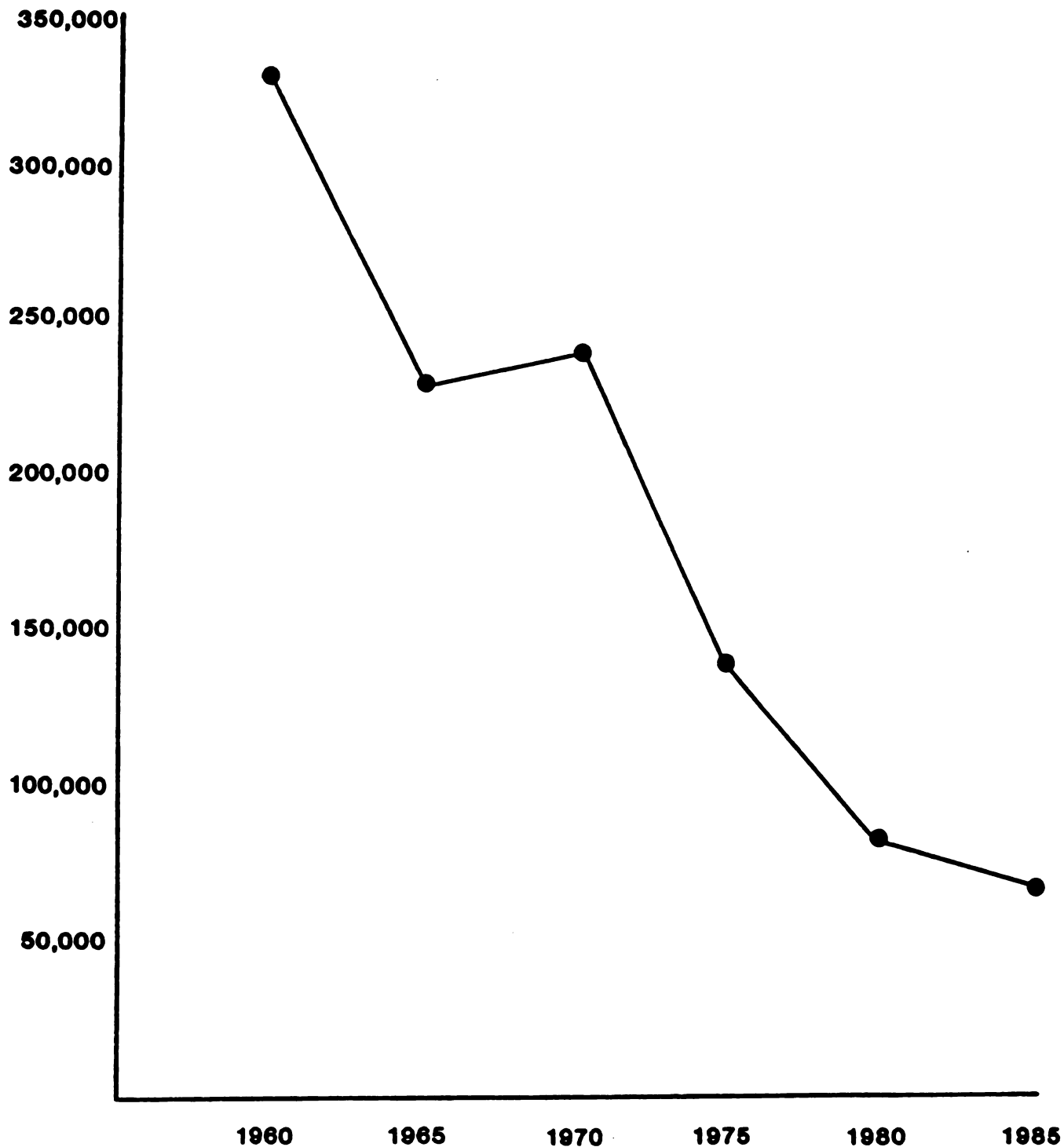


**FIGURE 1**

# **OUTDOOR POOL ATTENDANCE**

**TOTALS FOR ALL POOLS 1960-1985**

**79% DECLINE IN 25 YEARS**



**TABLE 2****OUTDOOR SWIMMING POOLS - ATTENDANCE**

|               | <u>1985</u>   | <u>1980</u>   | <u>1975</u>    | <u>1970</u>    | <u>1965</u>    | <u>1960</u>    |
|---------------|---------------|---------------|----------------|----------------|----------------|----------------|
| Richmond      | 21,145        | 18,699        | 29,456         | 49,654         | 41,331         | 64,848         |
| Garfield      | 16,703        | 17,683        | 30,509         | 43,198         | 59,760         | 89,049         |
| Briggs        | 7,533         | 11,669        | 26,984         | 43,177         | 41,101         | 47,894         |
| King          | 7,459         | 9,166         | 13,637         | 22,236         | 33,176         | 46,869         |
| Campau        | 4,076         | 4,696         | 9,403          | 12,238         | 14,074         | 26,856         |
| Lincoln       | 7,910         | 12,061        | 16,588         | 22,334         | 24,447         | 31,203         |
| Highland      | 4,881         | 8,219         | 14,829         | 23,464         | 16,293         | 27,322         |
| <b>TOTALS</b> | <b>69,707</b> | <b>82,193</b> | <b>141,406</b> | <b>216,301</b> | <b>230,182</b> | <b>334,041</b> |

(Source: Aquatics Facilities Report, City of Grand Rapids, 1986.)

To have a successful aquatics program and gain optimal use of swimming facilities, public pool operators must offer more than a concrete box to the public or pools will face further declines in use.(12) Operators must look at the amenities that are obviously missing at these older facilities. The country-club type setting must be brought back into the public swimming pool, having a lawn, trees, and an ambience that people will enjoy, so they will stay at the pool most of the day. The public has become accustomed to a great deal of convenience, so they should have food service, game centers, convenience goods, and similar services, if the facility is large enough to justify them.

The City of Dallas conducted a comprehensive survey of its pool users to determine what most attracted people to its public facilities. Dallas operates a system of both large community pools and smaller neighborhood facilities. Findings of the survey indicated the following items of significant importance in the public's choice of swimming facilities:

1. Large, convenient restroom facilities are a necessity.
2. A larger pool size is more desirable, coupled with a deck or sunning areas.
3. Overall appearance of a facility -- attractiveness, landscaping, cleanliness -- is very

important.

4. Attractive amenities such as shade areas, full-dressing rooms, locked clothes storage, play equipment, and water slides are additional considerations.

5. The lack of variety of recreation opportunities at pool site locations was cited as a deterrent to family-oriented attendance.(13)

Municipal park and recreation officials should consider offering these types of amenities at their public swimming pools to make them more attractive and enjoyable places to go. The "traditional" public pool, which only offers a cement box for swimming, has not been a viable contender for the leisure time commitment of the youth, adults, families, and senior citizens in today's changing society. New aquatic facilities can and must respond to the very basic needs of the potential users and also compete with other leisure-time activities. A new understanding of these needs has been established, implemented, and proven successful. This new trend in pool design offers a wide range of activities to attract a diverse group of users. It is an important concept in bringing public swimming pools back into the forefront of leisure activities.

## **Operation Costs**

Listed in Table 3 are the compiled costs associated with maintaining and staffing Grand Rapids' public pool operations for 1984 and 1985. An examination of this data reveals that, generally, the larger the pool capacity, the less costly, per swimmer, the total operations. This brings up the concept of providing one large pool instead of three smaller ones. Most health codes tend to require a separate filter system, staff, and other costs for each pool. If there is only one pool, then only one filter system and one pump will be required, which will save money in the initial cost and in the total operation of the facility. Although more lifeguards will be required at a larger facility, the costs of

TABLE 3

## TABLE OF OPERATIONS COSTS

1984

| <u>POOL</u> | <u>FILTER<br/>OPERATORS</u> | <u>J.T.P.A.<br/>ATTENDANTS</u> | <u>RECREATION<br/>STAFF</u> | <u>MAINTENANCE<br/>COSTS</u> | <u>TOTAL COSTS</u> | <u>ATTENDANCE</u> |
|-------------|-----------------------------|--------------------------------|-----------------------------|------------------------------|--------------------|-------------------|
| Richmond    | \$3,520                     | \$5,360                        | \$14,300                    | \$17,853                     | \$ 41,033          | 27,286            |
| Warfield    | \$3,520                     | \$5,360                        | \$14,300                    | \$12,962                     | \$ 36,142          | 21,921            |
| Triggs      | \$3,520                     | \$5,360                        | \$11,313                    | \$12,165                     | \$ 32,358          | 10,098            |
| Long        | \$3,520                     | \$5,369                        | \$12,541                    | \$ 9,804                     | \$ 31,225          | 9,673             |
| Chippewa    | \$1,760                     | \$2,680                        | \$ 6,088                    | \$ 6,404                     | \$ 16,932          | 5,588             |
| Lincoln     | \$1,760                     | \$2,680                        | \$ 7,141                    | \$ 7,103                     | \$ 18,684          | 13,086            |
| Highland    | \$1,760                     | \$2,680                        | \$ 6,250                    | \$ 4,721                     | <u>\$ 15,411</u>   | <u>9,813</u>      |
|             |                             |                                |                             |                              | \$191,785          | 97,465            |

1985

|          |         |         |          |           |                  |              |
|----------|---------|---------|----------|-----------|------------------|--------------|
| Richmond | \$4,320 | \$5,360 | \$15,866 | \$17,853* | \$ 43,399        | 21,145       |
| Warfield | \$4,320 | \$5,360 | \$15,866 | \$12,962  | \$ 38,508        | 16,703       |
| Triggs   | \$4,320 | \$5,360 | \$12,541 | \$12,165  | \$ 34,386        | 7,533        |
| Long     | \$4,320 | \$5,360 | \$12,541 | \$ 9,804  | \$ 32,025        | 7,459        |
| Chippewa | \$2,160 | \$2,680 | \$ 6,917 | \$ 6,404  | \$ 18,161        | 4,076        |
| Lincoln  | \$2,160 | \$2,680 | \$ 6,917 | \$ 7,103  | \$ 18,860        | 7,910        |
| Highland | \$2,160 | \$2,680 | \$ 6,917 | \$ 4,721  | <u>\$ 16,478</u> | <u>4,881</u> |
|          |         |         |          |           | \$201,817        | 69,707       |

\* Current fiscal year costs not yet complete, but anticipated to be equal or greater than previous year.

(Source: Aquatics Facilities Report, City of Grand Rapids, July 1986)

increased traffic, maintenance, and providing extra staff will still be less than equipment for the operations of the pools.

By providing one large pool in the place of a few smaller ones, however, the problem of increased travel time and costs to the pool for some residents becomes prevalent. New pools should be strategically located to serve the people who have limited access. The larger pools will also provide a number of amenities to encourage people to travel farther to enjoy the facility and what it has to offer.

## **SWIMMING PROGRAM**

The role of the outdoor pools in providing for the recreational swimming demands of Grand Rapids residents has changed in the past twenty years. Prior to 1968, the seven municipal pools were the only aquatic facilities available for Recreation Department programming. However, the eventual construction of three major high school, indoor facilities changed the programming capabilities and subsequent use of the outdoor pools. Among the various components of the overall program are swimming lessons, aquatic aerobics, scuba-diving lessons, swim team competition, and outdoor and indoor swimming.

Due to the limited seasonal use, unpredictable weather conditions, unheated water, spatial limitations of facilities, and scheduling conflicts with general open swim use, the Recreation Department concluded that outdoor pools were not amenable to most swim program activities. Programs were often delayed or cancelled due to rain, cold weather, or cold water. These activities were therefore moved to the indoor facilities, so the sole function of the outdoor pools became general fun activities and relief from the heat. These primary roles assigned to the outdoor pools will serve as the foci in establishing the specific need for outdoor pool facilities and related site amenities.

**TABLE 4****Outdoor Pools Attendance**

|                             | 1984   | 1985   |
|-----------------------------|--------|--------|
| Total Attendance            | 97,645 | 69,707 |
| Adult Attendance (over 19)  | 6,425  | 4,857  |
| Youth Attendance (under 19) | 91,220 | 64,850 |

(Source: Aquatics Facilities Report, City of Grand Rapids, 1986.)

Table 5 shows the decrease in youth population in the city by neighborhood district between 1970 and 1980. From this table it can be seen that the youth population in Grand Rapids declined 23 percent between 1970 and 1980. As the youth population declined during this period, the overall attendance at the outdoor pools declined 62 percent.

**TABLE 5**

Youth Population (19 years of age and younger)

| <u>Neighborhood District</u> | <u>1970</u> | <u>1980</u> | <u>Change</u> |        |
|------------------------------|-------------|-------------|---------------|--------|
| City-wide                    | 75,733      | 58,546      | -17,187       | (-23%) |
| Aberdeen-Riverside           | 5,847       | 3,934       | -1,913        | (-33%) |
| Northeast Lakes              | 6,227       | 5,019       | -1,208        | (-19%) |
| Creston                      | 6,047       | 4,068       | -1,979        | (-32%) |
| Richmond                     | 6,110       | 4,579       | -1,531        | (-25%) |
| Covell-Westhill              | 5,733       | 3,773       | -1,960        | (-34%) |
| John Ball                    | 4,307       | 2,964       | -1,343        | (-31%) |
| City Center                  | 1,384       | 727         | -657          | (-47%) |
| Eastown                      | 5,350       | 4,025       | -1,325        | (-25%) |
| Ottawa                       | 6,176       | 5,322       | -854          | (-14%) |
| Campau-Baxter                | 10,238      | 7,701       | -2,537        | (-25%) |
| Burton-Dickinson             | 4,643       | 4,422       | -221          | (-5%)  |



|                              |              |              |             |               |
|------------------------------|--------------|--------------|-------------|---------------|
| <b>Garfield</b>              | <b>3,193</b> | <b>2,729</b> | <b>-464</b> | <b>(-15%)</b> |
| <b>Franklin-Hall</b>         | <b>3,153</b> | <b>2,581</b> | <b>-572</b> | <b>(-18%)</b> |
| <b>Ken-O-Sha.- Ridgemoor</b> | <b>7,325</b> | <b>6,702</b> | <b>-623</b> | <b>(-9%)</b>  |

(Source: Aquatics Facilities Report, City of Grand Rapids, 1986.)

The following city-wide map (Map B) represents the census data for individuals 19 years of age and under. The city planning districts displaying the highest population in this age grouping are Northeast Lakes, Ottawa, Campau-Baxter, and Ken-O-Sha-Ridgemoor.

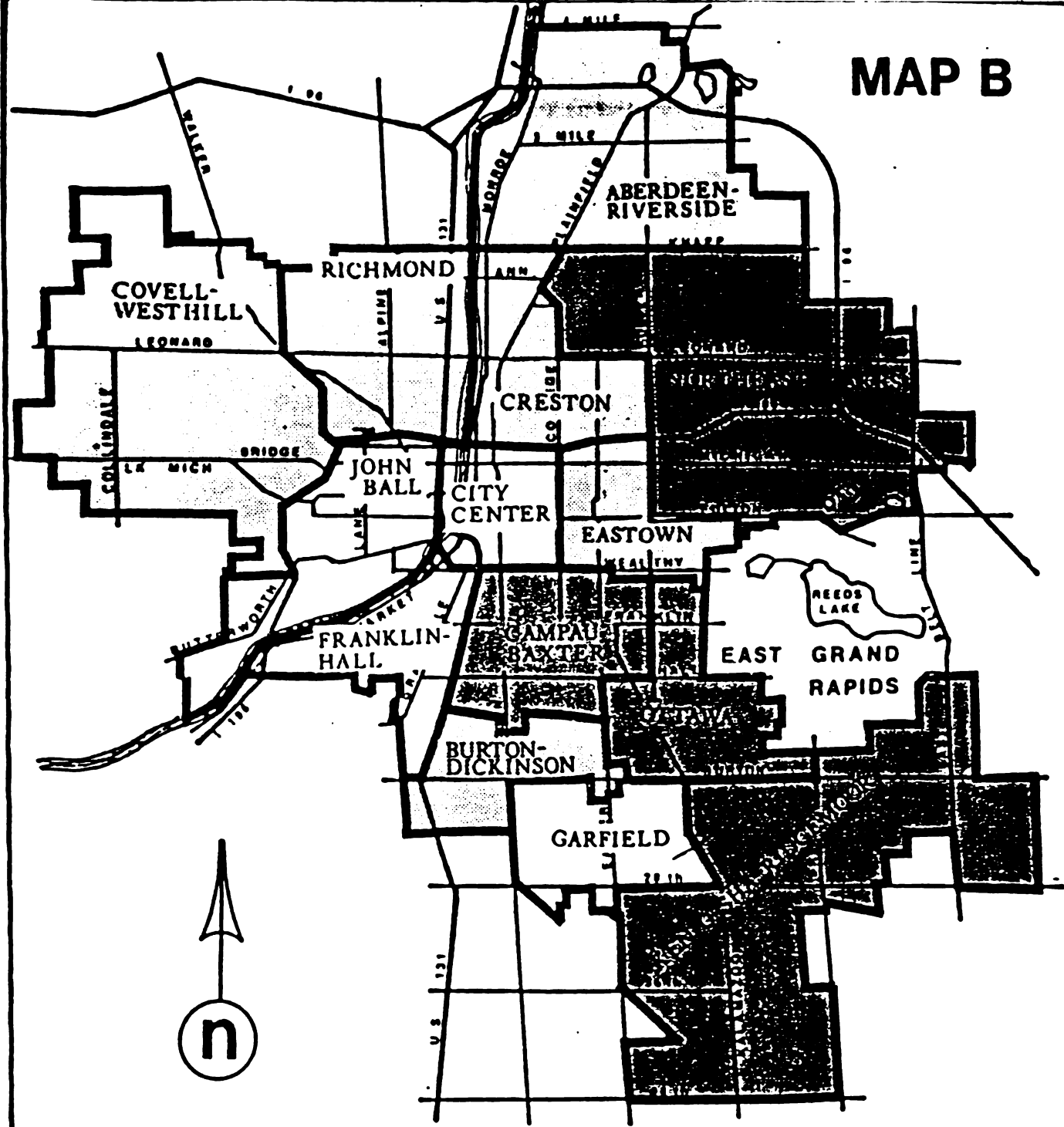
It is clear from both the census data and attendance records that outdoor recreational swimming participation is declining significantly in Grand Rapids. Although overall participation rates at the outdoor pools have declined significantly in the past twenty years, so has the population of those under 19 years of age, which makes up the majority of the outdoor pool user group. It is not expected that an increase in this portion of the population and swimming activities will be coming in the near future. In fact, it is more probable that the decline will continue since professional adults are not having the large families common in the past.

### **Comparisons to Other Facilities**

In addition to assessing the physical condition of the pools, attendance, programs, and demographics, it is necessary to compare the number of facilities available to Grand Rapids residents with those in other areas.

One method of assessing a sufficient number of facilities is through the application of national guidelines. These are intended to be used as guides in the planning of facilities. Because each community is different, the guidelines for any particular facility may not be strictly applicable. An analysis of a community's specific situation is essential in determining the need for any public recreation facility. This bears

# MAP B

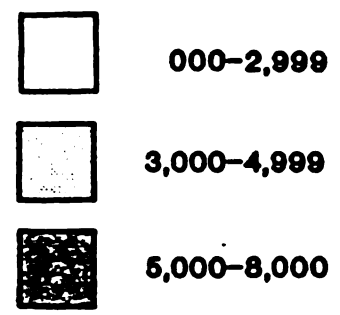


**CITY  
OF  
GRAND RAPIDS, MICH.**

**PLANNING DEPT.**

**NEIGHBORHOOD DISTRICTS**

**YOUTHS 19 YEARS & UNDER**



a significant relationship to the situation in Grand Rapids for several reasons.

First, as previously noted, the population group most likely to utilize swimming facilities has declined since 1970. Second, Grand Rapids is in close proximity and easy access to many natural bodies of water -- primarily Lake Michigan. Finally, there exist more water facilities for resident use today than when the seven outdoor pools were most heavily used. Presently, there are twenty-four apartment/condominium pools, twelve membership-oriented pools, and four private school pools.

### **National Guidelines**

Utilizing one of the National Recreation and Parks (NRPA) guidelines for swimming pools -- facility:population, which is 1 pool:20,000 population -- an examination of Grand Rapids' situation reveals that there is 1 pool:15,153 population. This is based on a population of 181,843 and twelve pools (six indoor and six outdoor).  
(14)

Clearly, Grand Rapids enjoys better status than national guidelines strive for. Given the present trend of a decline in youth population, the need for more pools, based on this criteria, would not appear necessary.

It should be noted that there are many criteria, standards, or guidelines relative to recreational facilities. The example above is only one of many.

### **Comparable Michigan Communities**

A brief survey of the cities of Flint, Lansing, and Ann Arbor was undertaken by Grand Rapids' Parks Department staff to compare the swimming pool operations of Grand Rapids to other Michigan communities. This comparison was helpful in revealing

how Grand Rapids' swimming pools operations compare to other communities that are similar in population and climate. It was found that Flint has one outdoor pool and three indoor pools programmed for public use for a ratio of 1 pool:39,902 population, Lansing has two outdoor pools and one indoor pool programmed for use for a ratio of 1:43,471, and Ann Arbor programs three outdoor pools for a 1:35,988 ratio. It is apparent from this comparison that Grand Rapids enjoys a significant advantage in terms of the number of public pool facilities available to residents.

## **SUMMARY OF FINDINGS**

1. Grand Rapids' outdoor pools range in age from 30 to 67 years of age, compared to the typical municipal pool requiring renovation after 20 to 25 years.
2. The problems which exist at the pools are a result of extreme age; remedies are beyond the capabilities of routine maintenance.
3. Overall attendance at outdoor pools has declined 79 percent from 1960 to 1985.
4. Ninety-three percent of outdoor pool users in 1984 and 1985 were under 19 years of age. This age group declined 23 percent between 1970 and 1980.
5. City-staff determinations for declines are: facility age, lack of modern conveniences and amenities, increased alternative swim opportunities, and a decreasing youth population.
6. Professional park and recreation guidelines for facility development indicate that Grand Rapids has more than enough pools to service the population.
7. The outdoor pools program provides only a part of the overall focus of an aquatics program. It is necessary to view indoor and outdoor pool facilities when assessing the total aquatics needs.
8. Grand Rapids presently has one pool closed, two in immediate danger of being closed,

and three others with a life expectancy of three to five years.

## **RECOMMENDATIONS**

Upon close examination of the trends in programs and pool designs, facilities use, demographics, alternative swim opportunities, and comparative facility operations, the following recommended plan for public swim facilities in Grand Rapids has been developed. These recommendations take into account both the urgency of the present situation with the likelihood of closing King and Richmond pools in the immediate future, the three smaller pools within the next three to five years, and Garfield pool sometime after that, and the need to provide for the swim needs of the community for the next 20 to 30 years.

**1. Issue:** Grand Rapids' current outdoor swimming pools are in a state of severe deterioration. One of the seven pools has been closed by the Health Department, and at least two others are in danger of closure in the next year. Briggs, Richmond, and King pools are in a state of disrepair and renovation costs would be just about equal to the cost of new facilities.

### **Recommendation**

The City should pursue the construction of new pool facilities where determined necessary, and renovation, if deemed cost-effective over the long term. Numbers of facilities and locations should be based upon sound professional and community standards, and reflect realistic financial constraints. The construction of new facilities may need to be phased in over time because of budget constraints. It is important to

locate these new facilities in or near low and moderate income areas, which are primarily in the central and older areas of Grand Rapids. These are where the current pools are located, so it is important not to move the new facilities out of these areas, where the people who have limited access cannot get to them.

**2. Issue:** Current outdoor pools have experienced significant declines in attendance. This decline is directly related to the decline in the portion of the population which is under 20 years of age.

### **Recommendation**

The City should pursue an aquatics program which addresses the current and projected needs of the community. Efforts should focus on providing sufficient facilities and amenities to meet citizen needs, and attempt to offset extensive operating expenses through reasonable fees and charges. Reasonable user fees can be put towards the operating expenses of these facilities, but the fees must be reasonable for the people the pool is serving.

**3. Issue:** There is a need to develop a comprehensive approach to the provision of a well-rounded aquatics program. This approach must be based upon current data and research, and provide specific recommendations for implementation. It must be determined where the new facilities will be located, how many pools are required, and what types of programs and activities will be offered.

### **Recommendation**

The City should pursue the construction of three outdoor pool facilities of

approximately 15,000 to 17,500 square feet of water surface. These facilities should provide several basic amenities proven to attract urban users, e.g., heated water, large deck space and sunbathing areas, concessions, picnic and play areas, and water-oriented attractions. These outdoor facilities can provide a fun and casual atmosphere where people can spend their leisure time during the summer months. These pools will complement the programmed activities that will take place at the indoor facilities and will also not be as expensive an undertaking as indoor facilities.

The recommended pool sites are Richmond, Garfield, and Ball/Perkins. If a phased approach to constructing the regional pools is taken, the following approach is desired:

1. Northeast (Ball/Perkins)
2. Northwest (Richmond)
3. Southeast (Garfield)

The Ball/Perkins site was chosen because of its central location to the under 19 years of age population in the northeast section of the city. This large site can serve the existing population in the area and can also accommodate additional park amenities for the community as this area grows.

The Richmond site was chosen because the existence of a large pool and bathhouse facility, at present, will reduce total new construction costs with minimal site disruption. The existence of support facilities such as parking and utilities is another positive factor. In addition, attendance figures at the current pool indicate that the public is capable and willing to attend this facility for swimming purposes.

Garfield pool was chosen to serve the southeast area of the city. The advantages of this location are: a large pool and bathhouse are present, so there would be minimal site disruption and loss of existing facilities; the area is relatively centrally located in the southeast section; there is demonstrated attendance to support this facility; and support

facilities such as ball fields, tennis courts, picnic areas, and playgrounds could complement a major pool facility.

## CONCLUSIONS

Well-planned and supervised parks are considered assets in any neighborhood. Park pools are landmark meeting points for social gatherings, recreational swimming, and physical exercise. As a neighborhood resource, pools are particularly useful for channeling the energies of young residents. Pools offer an outlet for everyone, but especially for people under 20 years of age, who represent the majority of the pool constituency (remember, however, that this cohort is getting smaller and the same number of facilities may not be required).

The impact of a public pool upon a neighborhood is positive and generally welcomed by local residents. There is no evidence to suggest otherwise in the Grand Rapids case. Although pools are only one facet of a total park and recreation package, their existence is an important investment in low- and moderate-income areas.

In Grand Rapids, all of the current pools are located in or near the general target areas (i.e., the low- and moderate-income areas, where access to the pools is limited). The recommendations submitted by the Grand Rapids Parks and Recreation staffs name sites that continue to serve these areas. Access to public pools must be easily accessible and located near the people who do not have access to private or membership-oriented pools. These newly proposed locations are in neighborhoods where alternative outdoor recreational swimming activities do not exist.

The proposal submitted by city staff was generally well-accepted by the neighborhood associations and local residents, primarily because the public was aware that there was a dilemma facing the future of its public pools. Public pools are an



important aspect in the quality of life of communities. A second reason that the residents looked favorably upon the process was because they were part of it. A Citizens Swimming Pool Committee was organized by the neighborhood associations to assess the report. City staff was also part of this committee and made every effort to accommodate all requests for information or assistance made by the committee.

One point of disagreement between the city proposal and the citizen committee centered around the regional pool concept. The residents felt that the seven existing sites should be retained to maintain the neighborhood pool concept. The regional pools, although larger on an individual basis, are fewer in number. A distinct disadvantage that stands out is the problem of transportation to and from regional pools. These distances would dramatically rise for the majority of residents, thereby necessitating increased car travel and the possibility of busing programs. The neighborhood concept maintains shorter travel distances to allow walking by the majority of residents.

The issue that seems to persist in this process is the need for seven outdoor pools to serve a declining younger population. On the one hand, the citizen committee does not want to lose any opportunities for swimming and access to these sites for those who utilize them most. On the other hand, analysis has shown that this population is declining rapidly and will likely continue to do so. Although the number of pools will be decreased, the new pools will be located at existing sites that already serve low and moderate income areas. The city is not removing all of the swimming opportunities away from these areas; it is only removing the three smaller above-ground pools and providing larger and more attractive facilities at the other locations.

In addition to the disagreement around the regional pools concept, there was also some debate regarding the recommended sites for new pools. The original recommendations, presented earlier, place Ball/Perkins as the highest priority area. After a discussion with the citizen committee, this site was changed to the current site of the closed Briggs pool. This site is more centrally located than the Ball/Perkins site and the

committee did not want to displace residents in that area. The City seemed to make a good decision in changing the location because the pools should be located to serve the central areas of the city where the lower-income people live.

In the recommendations, King pool, in the central city, was not considered as a site for a regional pool. The citizen committee once again felt that this was inappropriate. This pool is located at a park that serves a predominantly low-income and black population. It would not seem right to take this pool away and thus make these people travel to Garfield pool to swim. The citizen committee, after discussions with city staff, got King pool put on the priority list. The revised priority and site list is: 1. Briggs; 2. Richmond; 3. King; and 4. Garfield (see Appendix for site plans).

Along with the planning of new pool facilities, the Parks and Recreation staffs recommended providing an aquatics program which addresses the current and projected needs of the community. By programming the indoor pools for instruction and competitions, and the outdoor pools for casual use, the City is recognizing its obligation to assist in fulfilling the diverse demands of its citizens. By planning new pool facilities and providing new aquatic programs and amenities, the local government is meeting most of the municipal goals mentioned earlier in this report. The local government is promoting physical fitness by providing facilities where people can keep fit. It is increasing social adjustment by creating an atmosphere where people can spend time with others and also meet other people their same age.

These new pools provide recreational opportunities for the individual, as well as for the group or family. The municipal government is also providing for diversion and relaxation from the tension and stress of urban life. The new facilities could also be used to complement the curricula of the education system. Field trips and instruction at the pools could be a program operated by the public schools and the Recreation Department.

Outdoor swimming pools provide recreational opportunities for all residents in an urban area. If they are strategically located, they provide for recreation for all regardless

of income or social status. This, of course, should be the case in any area. The case in Grand Rapids has addressed each one of these concerns and others. The sites for the new pools are located at current pool sites, which will decrease some construction costs, and also not inconvenience too many residents who already use the current facilities.

The new outdoor pools are being complemented with various amenities and a new design which will attract a wide range of users. More than just water activities will be offered, which may attract younger children, teenagers, adults, seniors, and families. The regional pools also encourage visitors to stay longer. People can stay for short periods of time or they can make day-long trips to the facilities.

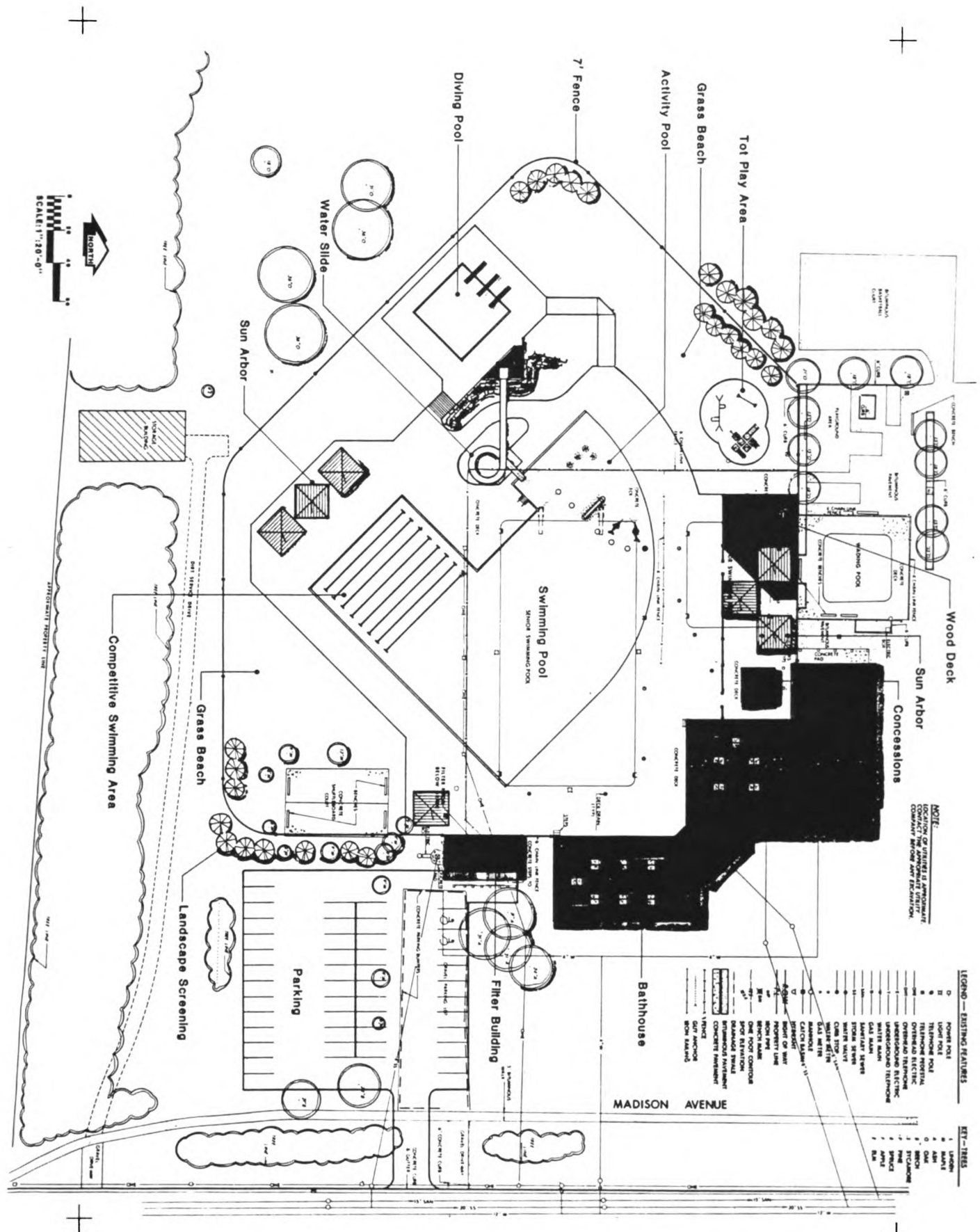
The Grand Rapids example of planning recreation facilities is an excellent one. Before making any type of recommendation, the staff carefully analysed its problem, studied existing data on its community, looked at current and past trends in recreation facility design, compared its facilities to other like communities, and worked with local residents to ensure that their needs and demands were met. The staffs at the Parks and Recreation departments seem to have been successful in their process of delivering new recreation facilities and programs to the citizens of Grand Rapids. It will be interesting to see if the new outdoor swimming pools will be as successful as the planning process seems to indicate.

**APPENDIX**  
**PROPOSED SITE PLANS FOR NEW OUTDOOR POOLS**









NOTE:  
 1. ALL UTILITIES TO BE MAINTAINED  
 2. ALL UTILITIES TO BE RELOCATED  
 3. ALL UTILITIES TO BE DELETED  
 4. ALL UTILITIES TO BE ADDED

LEGEND — EXISTING FEATURES

- 1. POOL
- 2. DIVER
- 3. SLIDE
- 4. BEACH
- 5. PLAY
- 6. FENCE
- 7. ARBOR
- 8. DECK
- 9. CONCRETE
- 10. ASPHALT
- 11. GRASS
- 12. TREES
- 13. SHRUBS
- 14. FLOWERS
- 15. LIGHTS
- 16. SIGN
- 17. BENCH
- 18. TABLE
- 19. CHAIR
- 20. STAIR
- 21. RAMP
- 22. DRIVEWAY
- 23. PAVEMENT
- 24. CURB
- 25. SIDEWALK
- 26. STREET
- 27. HIGHWAY
- 28. RAILROAD
- 29. CANAL
- 30. LAKE
- 31. RIVER
- 32. OCEAN
- 33. MOUNTAIN
- 34. HILL
- 35. VALLEY
- 36. PLAIN
- 37. DESERT
- 38. TUNDRA
- 39. SAVANNAH
- 40. JUNGLE
- 41. SWAMP
- 42. MIRE
- 43. BARN
- 44. SHED
- 45. GARAGE
- 46. HOUSE
- 47. FACTORY
- 48. OFFICE
- 49. SCHOOL
- 50. CHURCH
- 51. SYNAGOGUE
- 52. MOSQUE
- 53. TEMPLE
- 54. MONASTERY
- 55. CONVENT
- 56. PRIORY
- 57. NUNNERY
- 58. HERMITAGE
- 59. RETIREMENT HOME
- 60. NURSING HOME
- 61. HOSPITAL
- 62. CLINIC
- 63. PHARMACY
- 64. LABORATORY
- 65. X-RAY
- 66. RADIO
- 67. TELEVISION
- 68. PHONE
- 69. CABLE
- 70. SATELLITE
- 71. ANTENNA
- 72. RADAR
- 73. SONAR
- 74. LIDAR
- 75. GPS
- 76. COMPASS
- 77. THEODOLITE
- 78. LEVEL
- 79. TRANSIT
- 80. TOTAL STATION
- 81. DISTANCE MEASUREMENT
- 82. ANGLE MEASUREMENT
- 83. ELEVATION MEASUREMENT
- 84. AREA MEASUREMENT
- 85. VOLUME MEASUREMENT
- 86. MASS MEASUREMENT
- 87. FORCE MEASUREMENT
- 88. PRESSURE MEASUREMENT
- 89. TEMPERATURE MEASUREMENT
- 90. HUMIDITY MEASUREMENT
- 91. WIND MEASUREMENT
- 92. RAIN MEASUREMENT
- 93. SUN MEASUREMENT
- 94. MOON MEASUREMENT
- 95. STAR MEASUREMENT
- 96. PLANET MEASUREMENT
- 97. GALAXY MEASUREMENT
- 98. UNIVERSE MEASUREMENT
- 99. TIME MEASUREMENT
- 100. SPACE MEASUREMENT

KEY — TREES

- 1. LARGE
- 2. MEDIUM
- 3. SMALL
- 4. SHRUB
- 5. FLOWERING
- 6. EVERGREEN
- 7. DECIDUOUS
- 8. PALM
- 9. CACTUS
- 10. BANYAN
- 11. GUM
- 12. OAK
- 13. PINE
- 14. SPRUCE
- 15. FIR
- 16. REDWOOD
- 17. SEQUOIA
- 18. JUNIPER
- 19. CEDAR
- 20. SYPHORE
- 21. MAGNOLIA
- 22. LILAC
- 23. HYDRANGEA
- 24. ROSE
- 25. JASMINE
- 26. CLOVER
- 27. Dandelion
- 28. Tulip
- 29. Iris
- 30. Orchid
- 31. Sunflower
- 32. Cornflower
- 33. Poppy
- 34. Marigold
- 35. Zinnia
- 36. Petunia
- 37. Geranium
- 38. Verbena
- 39. Lavender
- 40. Salvia
- 41. Echinacea
- 42. Aster
- 43. Gladiolus
- 44. Iris
- 45. Hyacinth
- 46. Narcissus
- 47. Tulip
- 48. Daffodil
- 49. Crocus
- 50. Anemone
- 51. Ranunculus
- 52. Delphinium
- 53. Foxglove
- 54. Belladonna
- 55. Mandarin
- 56. Camellia
- 57. Azalea
- 58. Rhododendron
- 59. Magnolia
- 60. Liriodendron
- 61. Liquidambar
- 62. Fraxinus
- 63. Quercus
- 64. Pinus
- 65. Juniperus
- 66. Cedrus
- 67. Libanotis
- 68. Cupressus
- 69. Taxus
- 70. Sciadopitys
- 71. Podocarpus
- 72. Agathis
- 73. Araucarioxylon
- 74. Wollemia
- 75. Ginkgo
- 76. Metasequoia
- 77. Sequoia
- 78. Taxodium
- 79. Nyrax
- 80. Libocedrus
- 81. Calocedrus
- 82. Cupressus
- 83. Taxus
- 84. Juniperus
- 85. Pinus
- 86. Quercus
- 87. Fraxinus
- 88. Liriodendron
- 89. Liquidambar
- 90. Magnolia
- 91. Rhododendron
- 92. Azalea
- 93. Camellia
- 94. Mandarin
- 95. Belladonna
- 96. Foxglove
- 97. Delphinium
- 98. Ranunculus
- 99. Anemone
- 100. Crocus



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- (1) Guggenheimer, Elinor C. Planning for Parks and Recreation Needs in Urban Areas, Twayne Publishers, Inc.: New York, 1969, p.22.
- (2) Ibid p. 26.
- (3) Ibid p. 31-2.
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- (6) Ibid p. 110.
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- (8) Ibid p. 129.
- (9) Ibid p. 133.
- (10) Guggenheimer, Elinor C. Planning for Parks and Recreation Needs in Urban Areas, Twayne Publishers Inc.: New York, 1969, p. 45-6.
- (11) Ibid p. 49.
- (12) "Trends in Pool Design," Athletic Business, August 1986, p. 86.
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- (14) Ibid p. 22.
- (15) Ibid p. 66-9.

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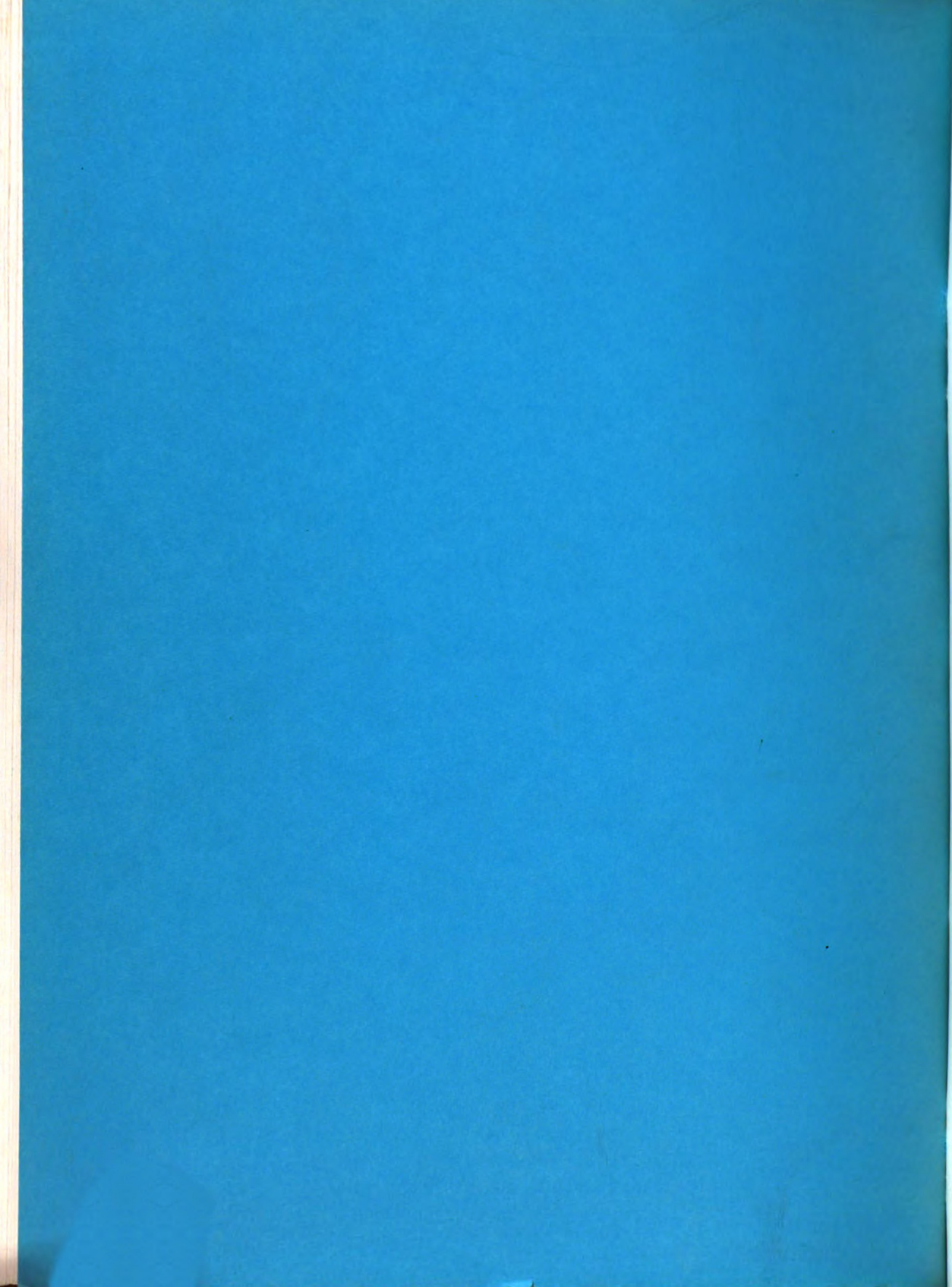
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