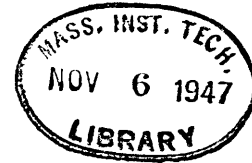


A PUBLIC RECREATION PROGRAM
FOR THE
CITY OF LAWRENCE MASSACHUSETTS



by

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, Massachusetts

May 23, 1947

Professor Frederick J. Adams
School of Architecture and Planning
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Dear Professor Adams:

I herewith respectfully submit this thesis entitled " A Public Recreation Program For the City of Lawrence, Massachusetts," in partial fulfillment of the requirements for the degree of Master in City Planning.

Respectfully,

Herbert C. Wieland

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FOREWORD

Recreation to some people usually means "play" or "fun"; to others it may mean the opposite of work. However the common denominator of all forms of recreation is that the individual participating does so of his own free will, without any external compulsion. To the planner recreation means the utilization of leisure time and recreational space for the best interests of both the individual citizen and the community. It includes participation in such beneficial community activities as the American Red Cross, the Boys' Club, the Y.M.C.A. and Y.W.C.A., the Boy Scouts and Girl Scouts or in any of the many other Lawrence organizations that aid in the development of a wholesome community life. It also pertains to the games, athletic contests, hobby clubs, and other activities which are so helpful in building the useful citizens of tomorrow. A quotation from the charter of the National Recreation Association best sums up the thought of this study: " That every child in America shall have a chance to play, that everybody in America, young or old, shall have an opportunity to find the best and most satisfying use of leisure time. . . ."

SCOPE AND PURPOSE

No plan of any kind is perfect and it is the purpose of this study to discover the deficiencies existing in the public recreation system of Lawrence; and by comparing the program and facilities of the existing system with generally accepted standards, to present a long range plan which will correct these inadequacies and render the citizens of this community the maximum benefit in the future.

This will be achieved by replanning the layout of existing facilities and areas and recommending new areas and facilities where there is a need for them. Existing facilities leave much to be desired both in aesthetics and in the organized program under professional leadership.

Considerations of a regional nature have not been overlooked in the study, but the proposed program is confined to the corporate limits of Lawrence. The school system of the city has been carefully studied in conjunction with recreation needs because of the close relationship between the two when compared on a neighborhood basis.

The recommendations made should give the City of Lawrence a well rounded recreation program for the next quarter of a century, but like a master plan, this program should be considered flexible and should be adjusted as changing conditions warrant and be brought up to date from time to time.

PROCEDURES

An attempt has been made to study the city by means of natural centers of activity. Among the factors taken into account in making this breakdown were such natural barriers as the city's three rivers, the Merrimack, the Spicket, and the Shawsheen; topographic barriers such as Prospect and Tower Hills; the low flat plain of the central city; the zones of industrial development along the Merrimack River and in the northwest corner of the city; the main and branch lines of the Boston and Maine Railroad; and the major traffic arteries. Each of these serve as barriers making certain areas inaccessible to others in the case of children.

In order to study the existing use of the land a complete land use survey had to be made. This very clearly showed the distribution of school and park properties, playgrounds, vacant land and semi-public land of recreational value. By adopting a set of recognized standards the existing facilities were evaluated.

Social characteristics were also studied with the stress being placed on housing, population trends and the physical expansion of the city. Delinquency, health and safety also received considerable study, but it was concluded that these latter items were not as important as the former in the formulation of a recreational program for Lawrence. The existing public recreation system was studied and maps were prepared showing the location of playgrounds, parks and other recreation facilities. Any facilities provided on

school property were included. The administration and financing of the program were also carefully studied.

Because of the important parts played by private and semi-public recreation facilities in the city, it was necessary to include the facilities offered by the membership agencies, churches, clubs, industrial and business organizations, and commercial recreation centers.

The deficiencies of the existing system were then found when evaluated on the basis of a generally accepted set of recreation standards. With the results as a guide proposals were made for the addition of new areas and facilities and the reorganization of the old. Combining these with a schedule of timing and financing the Long Range Plan was formulated.

PHYSICAL DATA

A knowledge of the physical layout of the city and of plans for its future development are a prerequisite for the preparation of a long range recreation plan. Therefore careful attention must be given to existing planning activities, housing conditions, zones of land use, vacant land and to natural neighborhoods as determined by railroads, major traffic arteries, waterways, tradition and topographical features.

The planning program in Lawrence is mainly in terms of new building plans, at present confined to architects' plans. The Lawrence Planning Board is the official planning agency of the city. There is no advisory commission and all consultant work is handled by a local architectural firm. The Planning Board seems to have very little influence in plans vitally affecting the city. There is no master plan governing the development of the city, but a zoning ordinance was adopted in 1943. This seems to be the only control or guide for the future development of the city. No recreation standards have been adopted and all recreation activity is controlled by the Department of Public Property and Parks. In the absence of any long range planning program, a long range recreation plan is all the more necessary.

HOUSING

Lawrence is a typical tenement city. Of a total of 22,739 dwelling units located in 10,113 structures, only 3,311 units are to be found in the form of single family residences. Two family houses comprise 25% of all the

dwelling units, 29.4% are in three family tenement structures, 11% in dwellings housing four families and 13.8% in structures housing from five to nine families.¹ Since the area of Lawrence is only 6.75 square miles this multi-family type of building was necessary to house the large population, composed for the most part of low income mill workers.² However, with the higher wages now being paid, and with so many of these large families having several wage earners contributing to a sizeable family income, a much better type of housing is now desired by a large number of these people. Easing of the present home building difficulties may herald the beginning of a single family home building trend in the city.

Many people in the city are now living in sub-standard housing. Many old structures which have long since outlived their usefulness are at present being occupied, a condition largely brought about by the present housing shortage. The following table lists all dwelling units by age:

TABLE (1)
All Dwelling Units By Year Built³

Year Built	Number	Per cent
Total units	22,739	-----
Number reporting	15,105	100.0
1930 - 1940	272	1.8
1920 - 1929	2,304	15.3
1900 - 1919	7,598	50.3
1899 or earlier	4,931	32.6

¹ 16th Census of the U.S. Housing, Block Statistics, Lawrence Supplement to the first series housing bulletin for Mass.

² Gross density of Lawrence, 12,600 persons per square mile.

³ 16th Census of the U.S., op. cit., table 1, p.5.

These figures show that very little new construction has taken place in recent years. Since the end of the War, new construction in the city has been virtually at a standstill because of excessive building costs. The city is at present building a Veteran's Housing Project consisting of 58 single family homes. There are also several fine new subdivisions where building will no doubt gain momentum when costs are reduced.

TABLE (2)

Characteristics of Housing by Wards¹

WARD	TOTAL DWELLING UNITS	OCCUPIED UNITS	STATE of REPAIR; & PLUMBING EQUIPMENT	RENTS		
		Total	1.5 or more persons/room	Number reported	Need major repairs; or no private bath.	Monthly average
1	4,083	3,906	52	3,600	514	\$ 25.09
2	3,248	3,128	129	2,983	507	26.28
3	2,638	2,546	103	2,485	403	20.41
4	2,958	2,846	111	2,781	674	21.28
5	4,803	4,643	149	4,544	621	26.08
6	<u>5,009</u>	<u>4,918</u>	<u>100</u>	<u>4,760</u>	<u>346</u>	<u>25.12</u>
Total	22,739	21,987	644	21,153	3,065	\$ 24.44

The figures in the above table present an over-all ward picture, but are not truly indicative of the various sections of each ward. Therefore it was necessary to study individual block statistics, in order to find the exact location of the substandard housing. Complete knowledge of these areas is necessary because they represent the areas of land

¹
16th Census of the U.S., op. cit., table 2, p.5.

which are in most urgent need of redevelopment, be it housing, recreation, or some other form of redevelopment. This part of the study was deemed vital prior to any land taking proposals for recreation purposes. In studying the block statistics, particular attention was given to four important points:

- (a) Blocks in which 25%, or more, of the dwellings were in need of major repairs.
- (b) Areas of greatest overcrowding.
- (c) Dwellings with rentals less than \$20. per monthly average.
- (d) Blocks in which 75%, or more, of the dwellings were built before 1900.

The blocks in which all four of these conditions exist were considered to be areas of substandard housing and are shown on Map (1). From this map it can be seen that the worst areas are located in the downtown central section of the city, with additional areas existing in the Tower Hill and South Lawrence sections. Another important factor that must not be overlooked is that the downtown central area is also the most heavily populated section of the city.

The local housing authority is very active in the housing affairs of the city. Recreation standards have been adopted by this body and minimum requirements have been carried out in the local housing project. Four well equipped playlots are located in the Project area.

Control of the development and design of new private subdivisions is embodied in the zoning ordinance which is administered by the building inspector. No requirements for open space is embodied in the ordinance and any provision

MAP 1



for such is at the discretion of the subdivider. The largest subdivision in the city now open for construction has provided for many park and playground spaces in its design.

¹
LAND USE

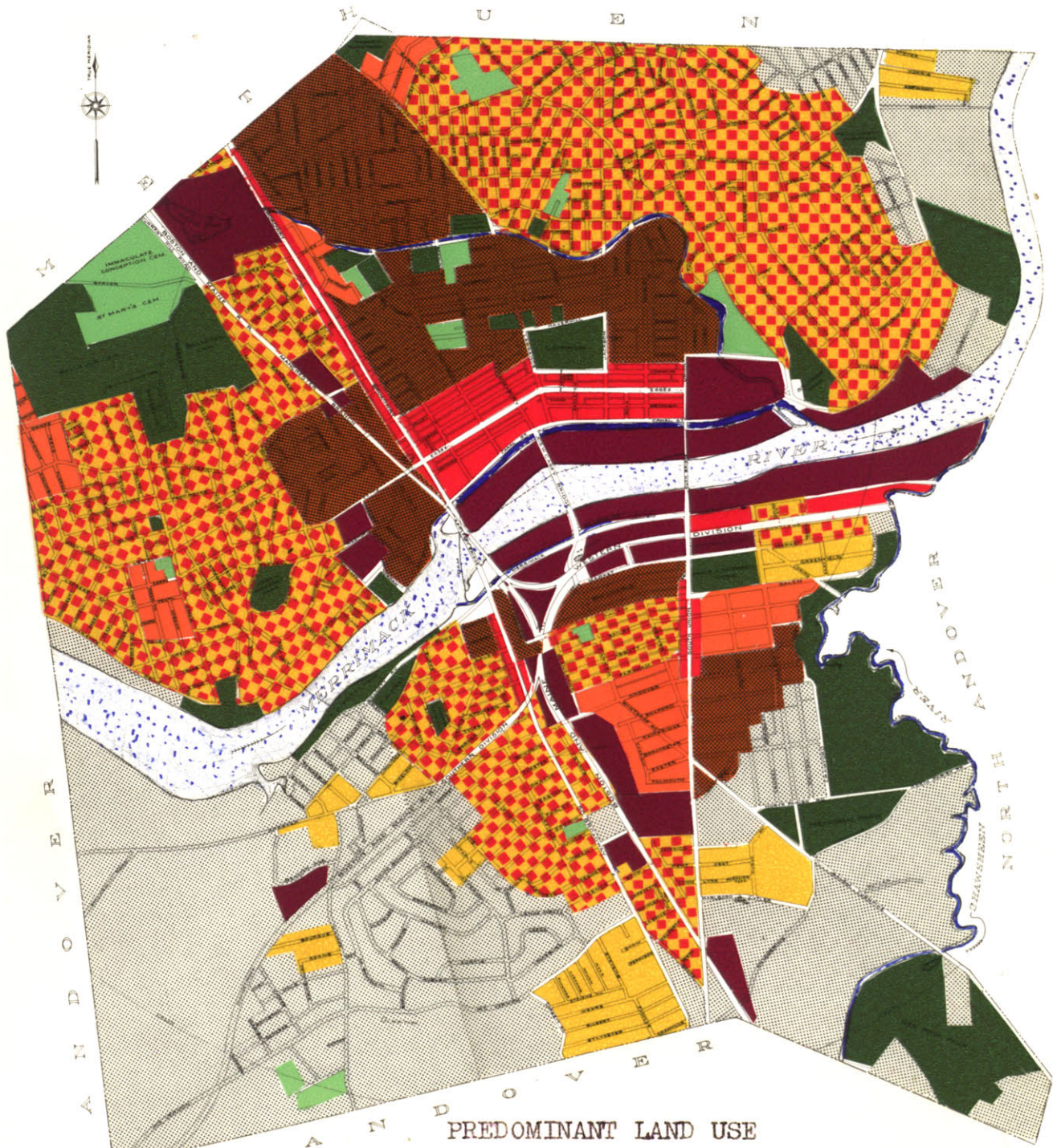
In order to facilitate the study of the physical aspects of the recreation system a land use map of the city was made. This presented a very clear picture as to the location of existing recreational properties, business and industrial areas, concentrations of the different classes of housing, and location of vacant land in the community. The large scale map accompanying this report shows the use of the land in great detail. For convenience, a small map showing the predominant land use by large areas has been included in the report.²










This city is a striking example of a city that has developed without the benefit of a zoning ordinance. Lawrence did not adopt a zoning ordinance until 1943 and as a result the city has grown like Topsy. The main business district is located in the center of the city on the North side of the river. Industry has bracketed the river and straddled the main line of the Boston and Maine Railroad. There are many large areas in which multiple family dwellings predominate. Many other areas are a mixture of all types of dwellings and only a few small, scattered areas are true

¹
Data assembled by use of Sanborn Insurance Maps, assessor's records, and corroborated by field checks of doubtful areas.

²
See Map (2).

MAP 2



- | | | | |
|---|--|--|------------------|
|  | Single family residence |  | Industrial areas |
|  | Two family residence |  | Public land |
|  | Multi-family residence |  | Semi-public land |
|  | Business areas |  | Vacant land |
|  | Mixed residential (single, two and multi-family) | | |

single family or two family districts. Public and semi-public land is well scattered throughout the city with several cemeteries occupying a large area of very desirable land in the northwest corner of the city. The amount of vacant land in the city is very small, the largest areas being found in the north-east corner and along the south-western and entire southern boundary line. Much of this vacant property is desirable building land which could be put to good use in the event of an extensive decentralization of the central area of the city.

POPULATION DATA

Among the most important concerns of the planner are the conditions for which some social, economic or physical provision must be made and any other factors interest him only to the degree in which they affect these conditions. This is extremely important in any long range recreation plan and complete population data is necessary for the proper planning of recreational programs and facilities in relation to the social, economic and physical conditions of the city.

TRENDS

In 1850 the population of Lawrence was 8,282.¹ Over the period of the next sixty years tremendous increases took place each decade. By 1910 the 85,000 mark had been passed with the all-time high of 94,270 being attained in 1920. During the next decade a decrease of 9.8% occurred placing the population at about 85,000 where it has remained for the past twenty years, indicating that the static point may have been reached. The rapid increases can be directly attributed to industrial expansion. When the dam was built cross the Merrimack River in 1847, a splendid source of water power was harnessed, ideally suited for textile manufacturing which is the chief industry of Lawrence.

The population change and per cent increase or decrease is shown for Lawrence, by decades, from 1850 to 1940 in the table on the following page.

¹ Lawrence was incorporated as a city in 1847.

TABLE (3)
Population Trends 1850 - 1940¹

Year	Population	Increase or Decrease	
		Number	Per cent
1940	84,323	- 745	- 0.9
1930	85,068	-9202	- 9.8
1920	94,270	8378	9.8
1910	85,892	23333	37.3
1900	62,557	17905	40.1
1890	44,654	5503	14.1
1880	39,151	10230	35.4
1870	28,921	11282	64.0
1860	17,639	9357	113.0
1850	8,282		

It is believed that the population of Lawrence will remain at the present level for the foreseeable future. The birth rate, which reached its all-time high of 26.6 per 1,000 in 1924, has levelled off at about 15 per 1,000. Whereas the average family size was 5.01 persons in 1910, due to the large immigrant families, this figure dropped to 3.71 in 1940. These factors, combined with the downward trend of the number of females of child bearing age, all contribute to the population levelling off at the present figure.

The loss of population can be attributed to the gradual decentralization of the central city with the people moving to the more desirable suburban areas. After Lawrence reached its population peak in 1920, the suburbs continued to grow. The population of the entire Greater Lawrence Region has also continued its increase. The past two years have shown very marked subdivision and home building activity in Andover, North Andover and Methuen with very little in Lawrence.

¹
16th Census of the U.S. 1940. Population, Vol.1
Number of Inhabitants,, Table 2,, page 479.

POPULATION DISTRIBUTION

The most convenient basis for the comparison of population statistics in different sections of the city is by the use of ward statistics. Population for Lawrence by wards for the past twenty-five years is shown in the following table.

TABLE (4)
1
Population Trends by Wards

Ward	Year				
	1925	1930	1935	1940	1945
1	15,846	15,025	15,184	14,433	14,708
2	14,051	12,913	12,703	12,101	12,000
3	13,432	11,289	11,498	10,978	10,879
4	11,848	9,822	9,910	10,300	10,251
5	18,677	17,391	18,200	17,875	18,638
6	19,673	18,628	19,290	18,636	19,127
	93,527	85,068	86,785	84,323	85,603

Wards 2, 3, and 4 are the oldest and most congested areas of the city, where, from the standpoint of recreational planning, it will be much more difficult to find enough low cost land for recreation than in the relatively spacious remaining wards. The most vacant land is available in Ward 6 and all new subdivision activity is confined to this area at the present time. The above table also shows substantial decreases in the population of these same wards in contrast to the status quo being maintained in the other three wards.

The under five age group is the one for whom the totlot is primarily designed. The playground is most used by the 5 - 14 age group while the 15 - 24 age group will for the

¹
Massachusetts Decennial Census. (For the odd years)
16th Census of the U.S. op. cit., table 34, page 667. (even years)

most part patronize the playfield with its athletic facilities and other specialized activities. In the 21 and over age group are the people who make the most use of golf and bowling facilities, utilize the recreation center facilities, and enjoy the passive recreation to be found in the parks. Many of the older people in this group enjoy less strenuous sports as shuffleboard or are merely spectators at athletic events. The following table shows the distribution of these major age groups that affect recreation planning.

TABLE (5)
Population Distribution by Age¹

Ward	Age groups			
	Under 5	5 - 14	15 - 24	21 - over
1	820	1,901	2,734	10,095
2	619	1,580	2,547	8,377
3	580	1,579	2,361	7,449
4	568	1,342	1,850	7,319
5	1,253	2,997	3,150	11,604
6	1,245	2,657	3,417	12,683
	5,085	12,056	16,059	57,527

Population distribution is shown on Map 3. This map shows the densest part of the city to composed of wards 2,3 and 4 with a small segment or ward 1. Although this area is only 20% of the entire settled area of the city, it contains 40% of the population. The above table also shows that 35% of the children under 5, 37% of the 5 - 14 group, 42.1% of the 15 - 24 group and 40% of the 21 and over group live in this combined three ward area. Therefore on the basis

¹
16th Census of the U.S. Population, Vol. II
Characteristics of the Population. Table 32, page 648.

MAP 3



POPULATION DISTRIBUTION

One dot represents twenty people

Source: 16th Census of the United States 1940
Housing - Lawrence, block statistics

of accessibility between 35 and 40% of the public recreation areas should be located in this small area. These people are also in the lower income brackets and live in low grade housing.¹ They are therefore in the class of people who do not have the means to leave the city to take advantage of the many suburban recreation facilities.

NATIONAL AND RACIAL GROUPS

Knowledge of the numbers and special concentrations of foreign-born is helpful to the recreational planner. The existence of such groups with their particular recreational traditions, however, influences program planning more than property planning. With the exception of a few specialized games which are favorites of certain nationalities, few adaptations in recreation areas need be made to attract the foreign-born element. Special festivals and holiday celebrations deserve recognition in the public recreation program as a means of adding color to the community program and of fostering a healthy relationship between the foreign-born and native born elements. In playground and community center activities of the children and young people, the segregation of nationalities should be discouraged and a mingling of the people should be promoted.

The Negro population in the city is so small as to be almost insignificant. In 1910 there were 265 negroes in the city. By 1940 there were only 122, concentrated for the most part in ward 5. Their numbers are so small that no social or economic problems are involved, and they are now fairly well a part of the community.

¹ See Map 1, Housing Characteristics by Blocks.

The population of Lawrence is considerably mixed in nationality. When the textile mills were established in the city, the owners of these plants, in the quest for cheap labor, attracted many thousands of immigrants from southern Europe. A company town was built for these people in Shawsheen Village, but this class of housing was far above the means of these ordinary mill laborers. These people then settled in the down town central section of the city in tenement houses where they and their descendants have remained to the present day. The houses in the Shawsheen district are now occupied by people in the high income brackets.

Between 1910 and 1940 there has been a marked decrease in the number of foreign-born, which is more clearly shown in the following table.

TABLE (6)

Group	Year			
	1910	1920	1930	1940
Native White	52.5%	58.3%	67.4%	72.7%
For. Born White	47.2	41.5	32.5	27.2
Negroes	0.3	0.2	0.1	0.1

Source: 16th Census of the U.S.

The foreign-born residents of the city have to a considerable degree located in nationality groups except those from Canada and the Irish Free State, the latter being well scattered throughout the city. The largest foreign-born element is from Italy. At least 90% of this number are concentrated in the down town sections of wards 1, 2 and 3. The next largest group is that of the French Canadiens with the heaviest concentration in ward 5 and fairly large

groups located in wards 4 and 6. People from England and Scotland are located mainly in wards 5 and 6. A large nationality group of Syrians are to be found in ward 3. There are smaller groups of Polish, Russian, Lithuanian and German descendants found in different sections of the city.

Many of these nationality groups have founded their own churches and social clubs and are still very loyal to these institutions. These clubs play an important part in the indoor recreation activities of the older people in the various national groupings.

This mixture of nationalities has had its repercussions on the history of the city. Most of the original laborers in the mills were immigrants from Ireland. This influx was the beginning of a movement which went on gathering momentum until the First World War, bringing successive waves of Irish, French-Canadiens, Germans, Italians and Poles to the growing city. Consequently the political and social history of the city has been complicated by racial antagonism and has given rise to problems in education and Americanization. This was in large measure due to the employment, housing, and environmental qualities of the areas affected.

Some of these characteristics are inherent in today's children and must not be overlooked in the recreation program. To help overcome this an intermingling of the races in childhood is recommended for all recreation activities. This would go a long way toward overcoming these racial prejudices handed down from generation to generation.

OCCUPATIONS AND EMPLOYMENT

Lawrence is one of New England's largest manufacturing cities and the largest worsted cloth manufacturing center in America. Although many products are manufactured here, textile plants are the backbone of the industrial economy of the city, over 400 acres of the city being covered by these huge plants.

These large textile plants were made possible because of the abundant water power of the Merrimack River which flows through the center of the city. The building of the Lawrence dam in 1847 harnessed this power to turn the spindles in these mills. In addition to worsted cloth, cotton goods manufacture played a key role in the early economy of the city.

The peak population was reached in 1920, and shortly thereafter the industrial boom ended. The Everett Cotton Mills closed, putting several thousand people out of work. At the same time, the Cotton Division of the Pacific Mills moved its operations to South Carolina rendering still more people jobless. Several other large mills followed suit and transplanted their operations to the South, due to decreased operating costs in that area. In the decade following, the population decreased by almost 10,000 caused mainly by the migration of these people to the South in the wake of the departing industries.

Conditions have remained fairly stable since that time both in population and employment. At present there are over 40 diversified branches of industrial endeavor located in the

Everett Mill property employing over twice as many people as were formerly employed in cotton manufacturing. There is quite a steady turnover of these small industries, but almost all industrial properties are occupied at present.

Wage increases have occurred as the cost of living rose. Of the total number of wage earners, about 20,000 are steadily employed in the textile industry. The following table shows the fluctuations in the total number of wage earners and the steady increase in wages.

TABLE (7)
Trends in Wages¹

Year	Wage Earners	Ave. Weekly Wage
Jan. 1941	19,102	\$ 21.33
" 1942	28,635	28.39
" 1943	26,163	32.47
" 1944	23,779	33.76
" 1945	22,667	35.11
" 1946	22,225	37.93
" 1947	24,738	42.91
Feb. 1947	25,178	48.45

Wage increases have been granted in keeping with the increased cost of living. Stable employment is assured for several years to come because of the backlog of orders for cloth. During the recent war years, the textile mills were producing cloth almost exclusively for the government. Despite the higher wages, there will not be any great change in the buying power of the public, nor in the general economic base on which expenditures for development and oper-

¹
Employment and Earnings of Wage Earners in Principal Fields of Employment in Massachusetts. 1941-1947. Jan., issue of each year.

ation of the recreation system rely. The increase in salaries and wages are absorbed by the increased cost of living, and any increases in recreation appropriations will be offset by the increased cost of materials and higher wages necessary for the departmental workers.

The following table gives a breakdown of the labor force.

TABLE (8)
The Labor Force¹

	Number	% of	
		Local	State
Professional	1,586	4.59	7.77
Semi., pro.	175	.51	1.25
Farms & Farm Managers	5	.01	1.01
Props., Managers	1,717	4.96	8.32
Clerical, Sales	4,326	12.51	21.19
Craftsmen	3,001	8.68	13.65
Operatives	18,610	53.82	26.91
Domestic, & others	2,726	7.88	12.56
Farm laborers	27	.08	1.10
Laborers, except farm	2,102	6.08	5.28
Others	305	.88	.96
Total	34,580	100.00	100.00

More than half of the labor force in Lawrence is composed of operatives. These large organizations of industrial workers put a heavy demand on the baseball, softball, and bowling facilities in the city. There are many industrial leagues operating in each sport with an unusually large number in bowling. The nature of the major occupations are such that any new people attracted to the community probably will have much the same interests as those now living here. In

¹
Community Statistical Abstracts, Lawrence, Mass., prepared by the Bureau of Business Research of the Boston University School of Business Administration, 1943.

this case it would be safe to base a long range recreation plan on the premise that the future population of the city will have much the same desires and wants because of the unchanging basic economy of the city.

In addition to the industrial workers, there is a considerable wholesale trade in the city, with about 100 wholesalers employing one thousand persons with a million and a half dollar annual payroll. There are about six hundred service establishments and over fifteen hundred municipal employees whose annual payroll totals almost three million dollars.

Other manufacturing activities include textile printing and finishing, hard rubber products, plastics, rugs, textile machinery and bobbins, machine products, paper and paper products, clothing, heels, hosiery, beverages, ice cream, boxes, shoes, chemicals, and soap.

SOCIAL DATA

JUVENILE DELINQUENCY

Map (4) shows the residential distribution of juvenile delinquents in Lawrence. This study was compiled from the records of the probation officer attached to the Lawrence Police Department. The distribution pattern has remained fairly constant during the past four years with the Shattuck-Durham Street area in South Lawrence contributing about 25% annually. This area is within a quarter-mile radius of two playgrounds, a large park and an outdoor swimming pool, which seem to absolve the lack of recreation facilities as a cause of this delinquency. The cases arising in this area are most prevalent amongst boys in the 12-16 age group.

A comparison of this map with the maps on population distribution ¹ and housing characteristics by blocks ² show that the heaviest concentration of cases occur in areas of relatively high population density and substandard housing. The cases in the Hampshire-Franklin Street area occur among negroes living in the rooming houses which are predominant in that area. The 1946 breakdown showed 72 male delinquents and 22 girl delinquents. The total cases during the past four years were as follows:

1946.....	96
1945.....	99
1944.....	98
1943.....	71

¹
See Map (3)

²
See Map (1)

MAP 4



DISTRIBUTION OF HOMES OF LOCAL

JUVENILE DELINQUENTS
and
NEGLECTED CHILDREN

1946

- Indicates one juvenile delinquent.
- Areas of greatest number of cases of neglected children.

MAP 5



DISTRIBUTION OF TUBERCULOSIS CASES

ADMITTED TO MIDDLETON SANATORIUM*

1946

- Indicates one admission
- Indicates one discharge
- Indicates one death

* See text on tuberculosis

TUBERCULOSIS

There are two agencies in Lawrence that actively fight the battle against tuberculosis. One is the city sponsored Tuberculosis Dispensary and the second is a branch of the Massachusetts Tuberculosis League. The latter handles many more cases in the city and, unfortunately, the city agency cooperates very little with the League.

Patients treated by the League are placed in Middleton Sanatorium. Distribution of these cases for 1946 are shown on Map (5). The city would not release any information as to the location of the cases handled by the Dispensary. Therefor the map presents a more favorable picture than actually exists. In 1946 only 46 cases were admitted to the Middleton Sanatorium which represents only 58% of the total cases in the city for the year.

A glance at the statistics for the past decade shows the eccentricity of the incidence of tuberculosis cases in the city.

TABLE (9)

Tuberculosis Death Rates

Year	Lawrence	
	Deaths	Death Rate / 100,000
1937	29	34.2
1938	35	41.2
1939	24	28.2
1940	31	36.8
1941	22	25.9
1942	32	37.7
1943	37	43.5
1944	35	41.7
1945	30	40.0
1946	25	29.4

¹ Vital Statistics, Secretary of the Commonwealth of Mass.

The average death rate in the United States for the past five years is 43.5 per 100,000 persons. The Lawrence figure has only equalled this once in the past decade and has remained considerably lower the greater part of the time.

As was the case with delinquency, a comparison of the Tuberculosis map with both the Housing and Population maps shows the majority of cases occurring in the heavily populated and substandard housing areas.

The conclusion reached is that not too much emphasis should be placed on the social factors in formulating the long range recreation plan. The incidence of these social factors seems very definitely related to substandard housing and overcrowding and, to a lesser degree, inadequate recreation facilities. It is beyond the scope of this report to thoroughly analyze these factors, but a knowledge of these conditions is of interest in connection with the recreation plan.

CITY ADMINISTRATION

Lawrence is under a commission form of government, which is a modified form of Plan "C". The general management and control of all affairs of the city, except the public schools, is vested in the City Council consisting of the Mayor and four Aldermen. The general management and control of the public schools is vested in a school committee of five, the mayor being a member ex-officio and also the chairman.

Under the present charter, whose adoption dates back to the state election on November 7, 1911, the administrative affairs of the city are divided into five departments: Department of Finance and Public Affairs, Department of Public Safety, Department of Public Property and Parks, Department of Engineering, and Department of Public Health and Charities. The first named department is administered by the Mayor and the latter four by Aldermen, or Directors. These Directors are the administrative heads of their departments.

Recreation falls under the Department of Public Property^y and Parks. The annual budget of the department is split into two sections: one section sets aside funds for public property, which consists for the most part of public buildings, and the second half takes care of parks and public grounds, which includes all recreation facilities.

SCHOOLS

Because of the similiarity of the roles played by schools and recreation facilities in a neighborhood, they must be studied together when formulating a long range recreation plan. It is not the intent of this study to make a comprehensive school survey, but enough information has been evaluated to make a set of proposals which involve building locations and uses, type of system to be used and the relation of schools to recreation. Criteria such as teaching standards and courses of study were not analyzed. Factors that were considered include age, type, condition and location of buildings; school attendance figures for the past two decades; relation of open space to the total area of each school site; grades taught in each school; the extent of use of the existing facilities; and facilities available in each school in addition to the classrooms.

SCHOOL PROPERTIES

There is a great deficiency in the amount of play space available at the majority of the existing school sites. Many have no other land available except a narrow paved strip that surrounds the building itself. This area must serve as a play area for the school children. Some of the schools have sufficient space in which a limited program can be carried on. Three of these same schools are fortunate enough to have a limited amount of play equipment in the playlot which is located on the school property. A list of the school properties and the total acreage and area that

is available for play is shown by the following table.

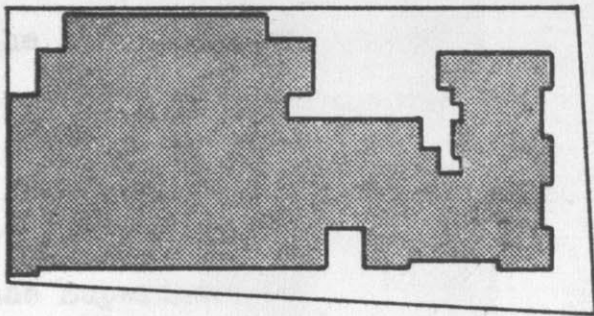
TABLE (10)
Schools and School Sites¹

School	Total Site Area	Open Space
Lawrence High	2.43 ac.	0.00 ac.
Amesbury St.	0.28	0.05
Arlington	0.81	0.50
Breen	1.55	0.80
Bruce	1.19	0.20
Donovan	0.36	0.05
Essex	0.59	0.10
Hood	0.93	0.20
Lawlor	0.59	0.15
Leahy	1.42	0.90
Leonard	1.80	1.00
Lowell St.	0.24	0.05
Oliver	1.11	0.00
Packard	0.86	0.40
Prospect St.	0.17	0.02
Riverside	0.46	0.05
Rollins	1.52	0.90
Saunders	0.82	0.40
Storrow	0.92	0.30
Tarbox	1.02	0.40*
Washington	0.33	0.05
Wetherbee	1.44	0.00#

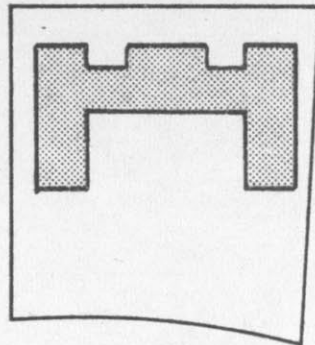
* Tarbox Playground across street, 0.88 acres.
Use Lindquist Playground adjoining school property.
Source: City Engineer and Assessors' Office, City Hall,
Lawrence, Mass.

Of this number the Arlington, Saunders and Leonard Schools have facilities comparable to those of a playlot. They are much used by the young children both at recess time and after school hours. They are also very popular in the summer months and a limited program is conducted at each ground several days a week. Both the Leonard and Tarbox School lots are listed as school playgrounds by the city.

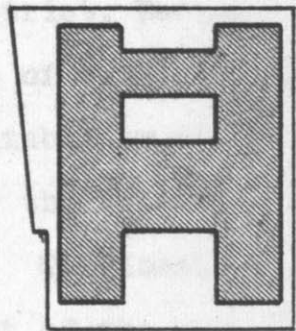
¹ Figure (1) on following page shows site plan of each school.



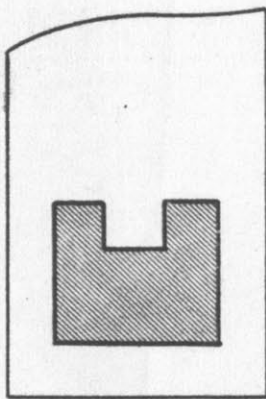
LAWRENCE HIGH



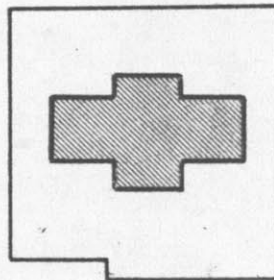
LEAHY



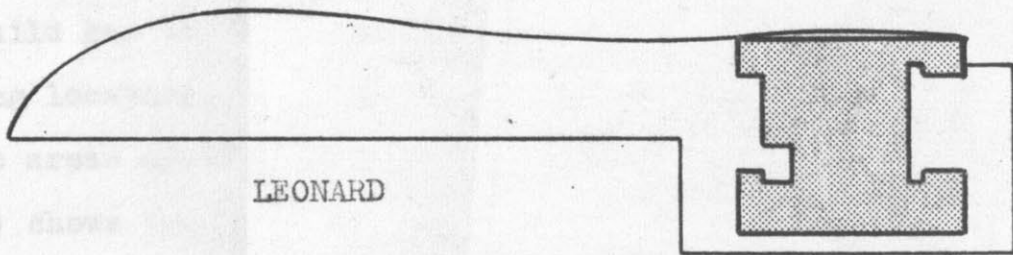
OLIVER



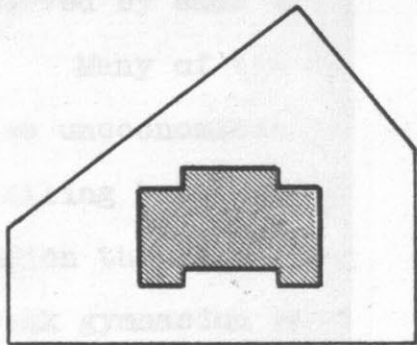
BREEN



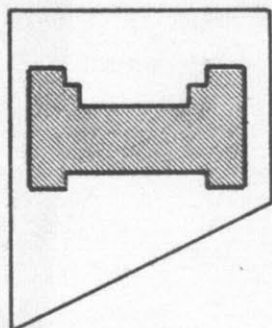
TARBOX



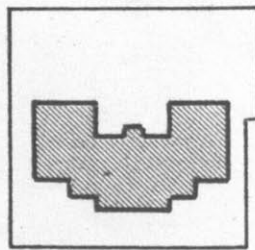
LEONARD



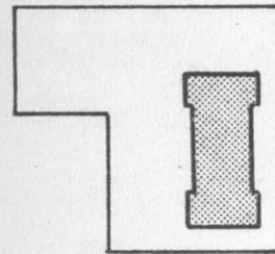
WETHERBEE



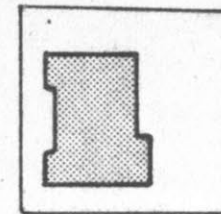
HOOD



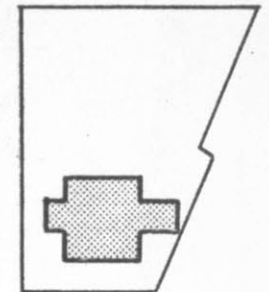
ROLLINS



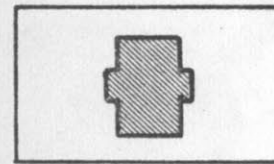
SAUNDERS



LAWLOR



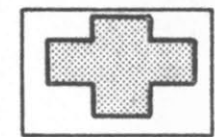
ARLINGTON



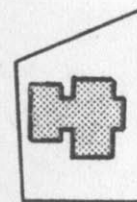
PACKARD



STORROW



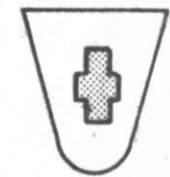
WASHINGTON



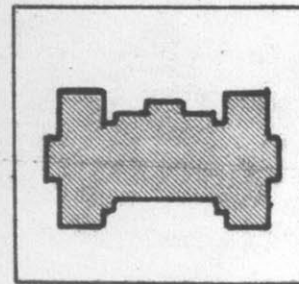
AMESBURY ST.



DONOVAN



RIVERSIDE



BRUCE



ESSEX



PROSPECT ST.



LOWELL ST.

PUBLIC SCHOOL BUILDINGS & LANDS

LAWRENCE 1947

Scale : 1" = 150'

Both of these areas are limited by the small size and shape of the lots and more area is necessary in order to make them acceptable playgrounds.

Of the twenty-two schools now in regular use, half were built prior to 1900. Four buildings are rated as poor by the Superintendent of Schools, five are rated fair and the remainder as good. Map (6) on the following page classifies the school buildings as to condition, type and school district. Factors considered in making this rating were the age of each building; physical condition of each structure; suitability of the room layout for educational purposes; and the location of each building.

The locations of the existing schools are such that most of the populated area of the city is adequately served, using a one-third mile walking distance as the maximum walk each child has to a school. The greatest fault in the existing locations is the tremendous overlapping of facilities in some areas and the bare coverage afforded in other areas. Map (7) shows the school building locations and the area served by each using the one-third mile radius.

Many of the smaller four, six and eight room schools are uneconomical to operate. The attendance is very low, falling between 25% and 60% of the rated capacity.¹ In addition they are the oldest structures in the system. They lack gymnasium and auditorium facilities and the maintenance

¹ Computed on the basis of 32 pupils per room maximum. Many classrooms in Lawrence Schools designed for 40 - 50 pupils.

MAP 6



SCHOOLS
by
CONDITION - TYPE - DISTRICTS

- District #1 ●
- District #2 ●
- District #3 ●
- District #4 ●
- District #5 ●
- District #6 ●

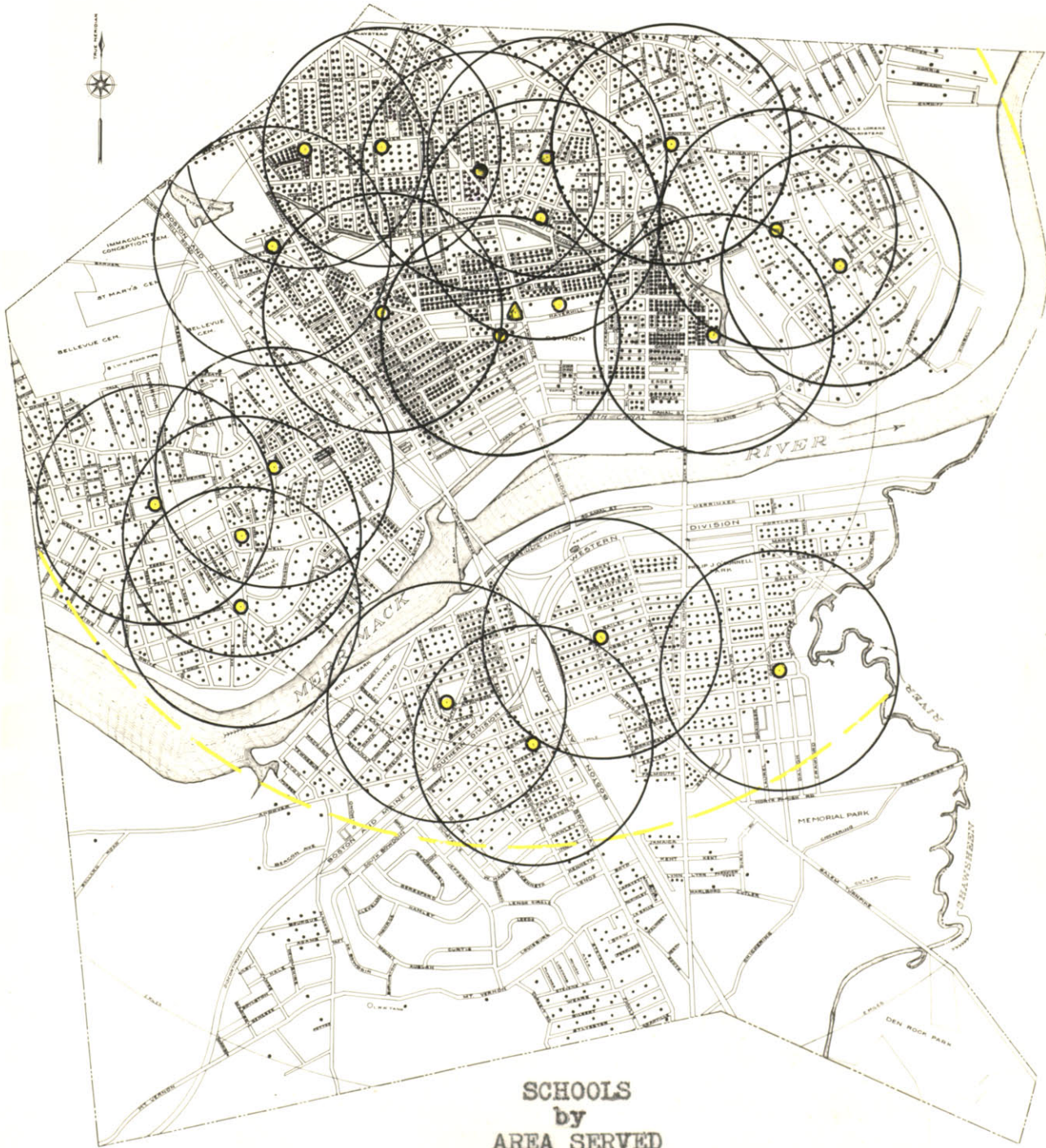
Condition

- Good ○
- Fair ○
- Poor ○

Type

- H.-High school
- G.-Grammar school
- E.-Elementary school

MAP 7



SCHOOLS
by
AREA SERVED

- Represents school site
- ▲ Represents high school site
- Circle of one third mile radius
- - - Circle of 1½ mile radius

costs are very high. The value of these buildings and the land on which they stand is also very low.¹ The following table lists important information about the schools.

TABLE (11)
School Data

School	Grades	# of Rooms	Type Structure	Year Built	Cond.	Aud. Gym.	Cap.
High	9-12	82	Brick	1901#	Good	A&G	550&600
Amesbury St.	1-3	9	"	1882	Fair		
Arlington	1-4	8	"	1890	Fair		
Breen *	1-8	14	"	1911	Good	A	300
Bruce *	1-8	20	"	1902	Good	A	400
Donovan	4-6	8	"	1914	Fair		
Essex	2-6	8	"	1896	Fair		
Hood *	1-8	16	"	1905	Good	A	350
Lawlor	1-4	7	"	1935	Good	A	100
Leahy	K-4	24	"	1923	Good	A	150
Leonard	K-5	28	"	1927	Good	A&G	400
Lowell St.	1-2	4	Wood	1861	Poor		
Oliver	9	34	Brick	1917	Good	A	500
Packard *	1-8	11	"	1896	Fair	A	60
Prospect St.	1-3	4	Wood	1856	Poor		
Riverside	1-2	4	"	1875	Poor		
Rollins *	4-8	14	Brick	1893	Good	A	300
Saunders	1-3	8	"	1931	Good	A	100
Storrow	1-5	8	"	1931	Good		
Tarbox *	5-8	20	"	1895	Good	A	400
Washington	1-4	6	"	1876	Poor		
Wetherbee *	4-8	10	"	1897	Good	A	350

* Grammar schools, all others being elementary except the Oliver which is at present the High School Annex.

Annex built in 1927.

Note: Pupils normally attending the Oliver School are now temporarily at the Leahy and Leonard Schools.

Another important factor to consider is that of over-²all school attendance. During the past two decades the

¹ See Appendix (A) for table of school valuations.

² See Appendix (B) for school attendance figures, by schools for past two decades.

average attendance figure dropped 50%. It is believed that the school population has now reached the low point. No increase in the total population of Lawrence is anticipated and with the levelling off of the birth rate, the school population will also eventually level off; this will occur after a slight increase takes place during the next few years because of the increase in the birth rate during the war years just past.

A high birth rate in the early twenties is reflected in the high elementary school enrollment in the late twenties and early thirties. The economic depression of the early thirties had a very pronounced effect on the birth rate which resulted in a decrease in the school enrollment at the end of that decade. The increase in the birth rate during the war years of 1940-1944 was only temporary due to a heavy increase in war marriages and extremely favorable economic conditions.

The downward trend in the high school enrollment is expected to continue because of the low birth rate in the middle thirties and the continued loss of pupils to the new parochial high school. The tremendous drop in this enrollment during the past seven years is due to many of the older students leaving school for war plant employment or service in the armed forces, and to the new Central Catholic High School for boys whose present enrollment is about 660 students. Not many veterans have returned to complete their high school educations. It is believed that any po-

tential increase in high school enrollment will be offset by expansion of the Central Catholic High School facilities. The girls Parochial High Schools have been in operation for many years and their enrollment has been fairly constant.

The elementary school group reached its low point in enrollment this year and the enrollment should increase steadily for the next five years because of the higher birth rates of the war years. The parochial school enrollment is also a very important factor. The public and parochial elementary school enrollments for 1946 were the same. The parochial school enrollment has likewise decreased during the same period of time, but not as sharply as the public school enrollment, the total enrollment being 5,982 in 1946. Facilities for an increase in parochial enrollment also exist. The table on the following page gives a comparison of the birth rate and school enrollment figures for the past two decades.

After due consideration had been given all of these factors, several steps were advocated in the light of present and possible future conditions. These stress the consolidation of existing facilities, changing the present system to a 6 - 3 - 3 system, redistricting the pupils, and utilizing the unused school buildings for community recreation center use. These points will be discussed in more detail in the section on proposals.

TABLE (12)

Birth Rates and School Enrollment

Year	Population	Birth Rate/1000*	School Enrollment		
			Total#	High	Elementary
1927		20.0	12,391	2130	10,261
1928		18.3	12,327	2364	9,963
1929		16.0	12,083	2529	9,554
1930	85,068	17.4	11,903	2563	9,340
1931		16.1	11,971	2836	9,135
1932		16.6	11,912	3038	8,874
1933		15.5	11,539	3272	8,267
1934		15.5	11,766	3445	8,321
1935	86,785	13.5	11,383	3713	7,670
1936		14.1	11,058	3649	7,409
1937		12.8	10,613	3556	7,057
1938		13.5	10,964	3605	7,359
1939		12.8	10,047	3747	6,300
1940	84,323	15.0	9,678	3800	5,878
1941		14.3	9,066	3579	5,487
1942		17.9	8,355	3121	5,234
1943		17.9	7,682	2641	5,041
1944		16.3	7,193	2336	4,857
1945	85,603	15.2	6,949	2156	4,793
1946		15.3	6,796	2120	4,676

* All-time high birth rate reached in 1924; 26.6/1,000

Source: Annual School Committee Reports. The average membership figures were used. Total enrollment as used in these reports means the number of different children attending, regardless of length of attendance.

INVENTORY OF RECREATION AREAS AND FACILITIES

In the preparation of this inventory all properties held by the city, whether developed or not, have been listed. Any undeveloped properties have been annotated as such. Map (8) on the following page shows all recreational and park property in the city.

The total open space available for recreation under public ownership and administration is approximately 268 acres divided as follows:

Parks	199.35 acres
Playgrounds	38.79 "
School P.G.	2.08 "
Playlots *	1.40 "
Special	26.66 "
<hr/>	
Total	268.28 acres

PLAYLOTS

The playlot is a small area intended primarily for the small children of pre-school age.¹ In Lawrence playlots are found either as separate areas or included in the facilities of a park, playground or school playground. The use of these areas is not limited to the use of pre-school age children in Lawrence. Considerable usage by children in school grades 1 - 3 has been the rule in the city. In several instances areas which do not quite come up to minimum desirable standards were considered playlots. But it was felt that with a small capital outlay these areas could be made into excellent playlots. The two best playlots in the city are located on

*

Playlots existing as part of parks and playgrounds were not counted in this total, but as part of the larger area.

1

For the purposes of this report a playlot is defined as that area used by children up to and including those in the third grade in school.

MAP 8



- Active Recreation
- Parks
- Undeveloped Municipal Park Land

the Common and O'Connell Park. Each area has swings, a slide, teeter boards, shade trees, a wading pool, a hard surfaced area for children's vehicles and benches for mothers with adequate space for baby carriages being provided. The inlet for the water in each wading pool is in the form of an ornamental fountain which adds tremendously to the beauty of the areas when in operation. The playlots provided at the local housing project are surfaced with an all-weather cork-asphalt mixture. In addition to serving the children of the housing project, many children from the surrounding neighborhood use these facilities to capacity. The following table lists playlots and their facilities.

TABLE (13)

Playlot Areas and Facilities

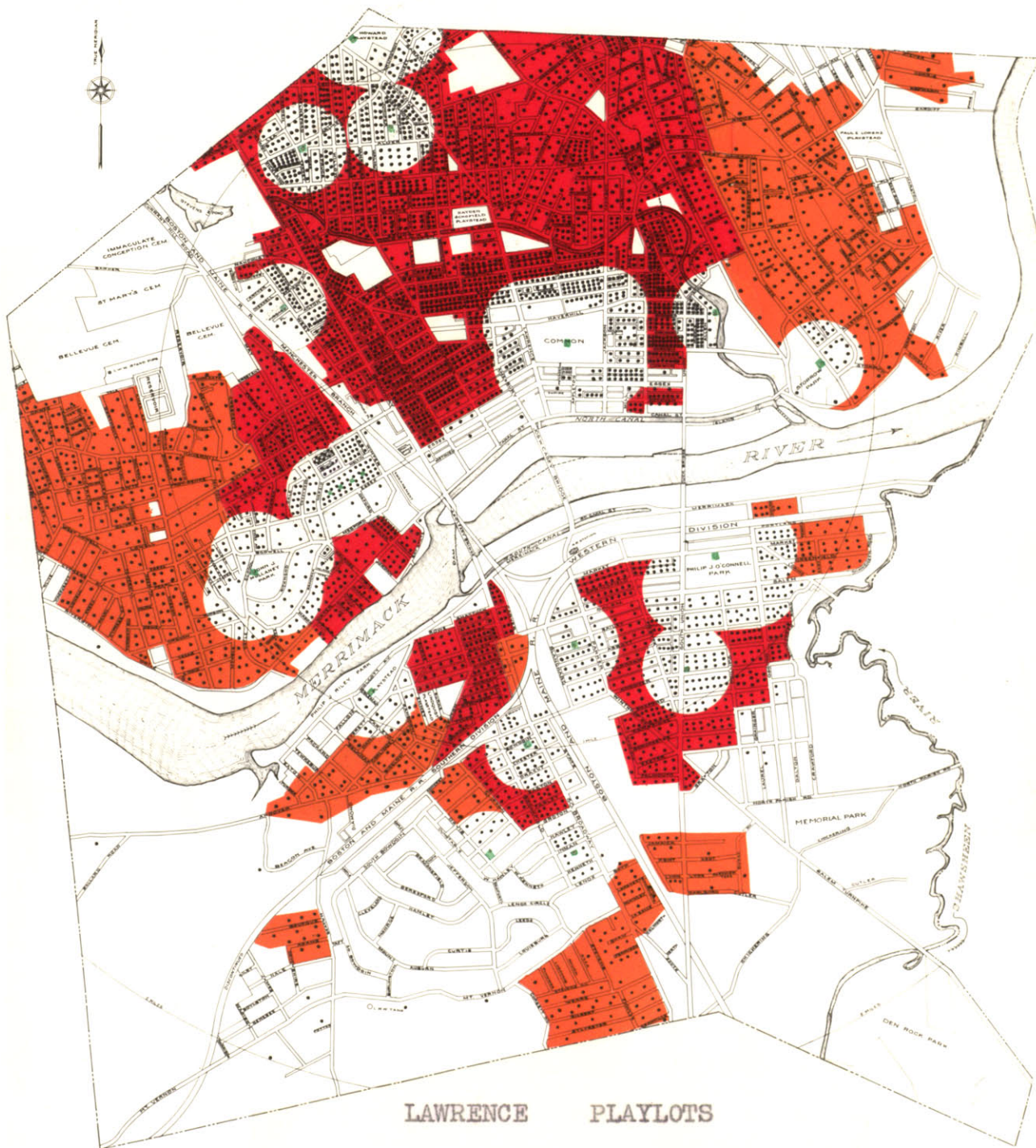
Area	Swings Slide Teeters	Wading Pool	Paved Area	Trees	Benches	Sand Box	Area ac.
O'Connell Park	X	X	X	X	X	X	0.25
Common	X	X	X	X	X	X	0.25
Howard Playground	-	X	-	-	-	-	0.20
Tarbox Playground	X	-	-	-	-	X	0.20
Arlington School	X	-	X	X	-	X	0.25
Mullaney Park	X	-	-	X	X	X	0.25
Leonard School	X	-	-	-	-	-	0.25
Storrow Park	X	-	-	X	X	X	0.25
Riley Park	X	-	-	X	X	X	0.25
Kehoe School	X	-	-	X	-	X	0.25
S.L. Library	X	-	-	-	-	X	0.23
Saunders School	X	-	-	-	-	X	0.25
Inman St.	X	-	-	X	-	-	0.10
Housing Project*	X	X	X	-	X	-	0.25
West St.	X	-	-	-	-	-	0.20
Groton St.	X	-	-	-	-	-	0.25

* In addition these playlots have jungle gyms.
 Note: Areas of playlots are approximate only.

Map (9) on the following page shows the areas in the city in need of playlot facilities. A population spot map in which each dot represents twenty people is used as the base map for this study. The solid red indicates the areas in greatest need of playlot facilities. The orange indicates areas in which the need is secondary because of lower population densities and more play space available in rear yards. This is possible because of the larger lots found in these districts.

The areas in red also cover the sections of the city in which the heaviest concentrations of population exist. In these areas the children play in the streets because most of the available land is covered by buildings. Because of the high population density in the city, and the numerous heavily travelled streets, the one-eighth mile radius was used as the maximum distance for these children to walk to a playlot. Applying this figure to existing facilities, it can be seen from the map that a great need exists for additional playlot facilities, especially in the more congested areas.

Of all the needed recreation space in the city playlot areas should be the easiest to acquire because of the small lots of land necessary. The lack of playlots in the congested areas could easily be remedied by developing some of the vacant lots now existing in these sections. An inspection tour through these areas revealed that vacant lots in these areas are now collection points for the neighborhood garbage and refuse. A small capital outlay would provide



good playlots and clean up these eyesores and disease breeding spots, transforming them into attractive areas for the immediate neighborhood. In addition to these privately owned lots some of the tax title land now being held by the city might be utilized to provide playlot facilities.

The problem of adequate supervision of these areas is a pressing one. In many of these areas the people are of a single nationality group. Many social halls and clubs, each catering to a single nationality group, are also to be found in these areas. The pride these people take in being a member of one of these organizations is reflected in the attempts to improve and beautify these properties where it is at all possible. If the city were to equip these proposed playlots, and then turn them over to these various clubs for supervision making each a sort of semi-sponsoring agency, this same pride taken in club affairs might also be effective in operating these playlots. A paid leader of the municipal recreation staff would act as general supervisor and guide. This plan might have considerable merit in the case of Lawrence and should be more thoroughly explored by the local recreation department.

PLAYFIELDS

This is an area designed to serve primarily the young people and adults. In many cities playfields will be found as parts of large city parks. Often a section of the playfield has been developed as a children's playground.

The playfield is a large area ranging between ten and

twenty acres in size. Since attendance at the playfield is less frequent than at the playground, a larger area can be served. Generally one playfield will serve an area equivalent to that served by four neighborhood playgrounds.

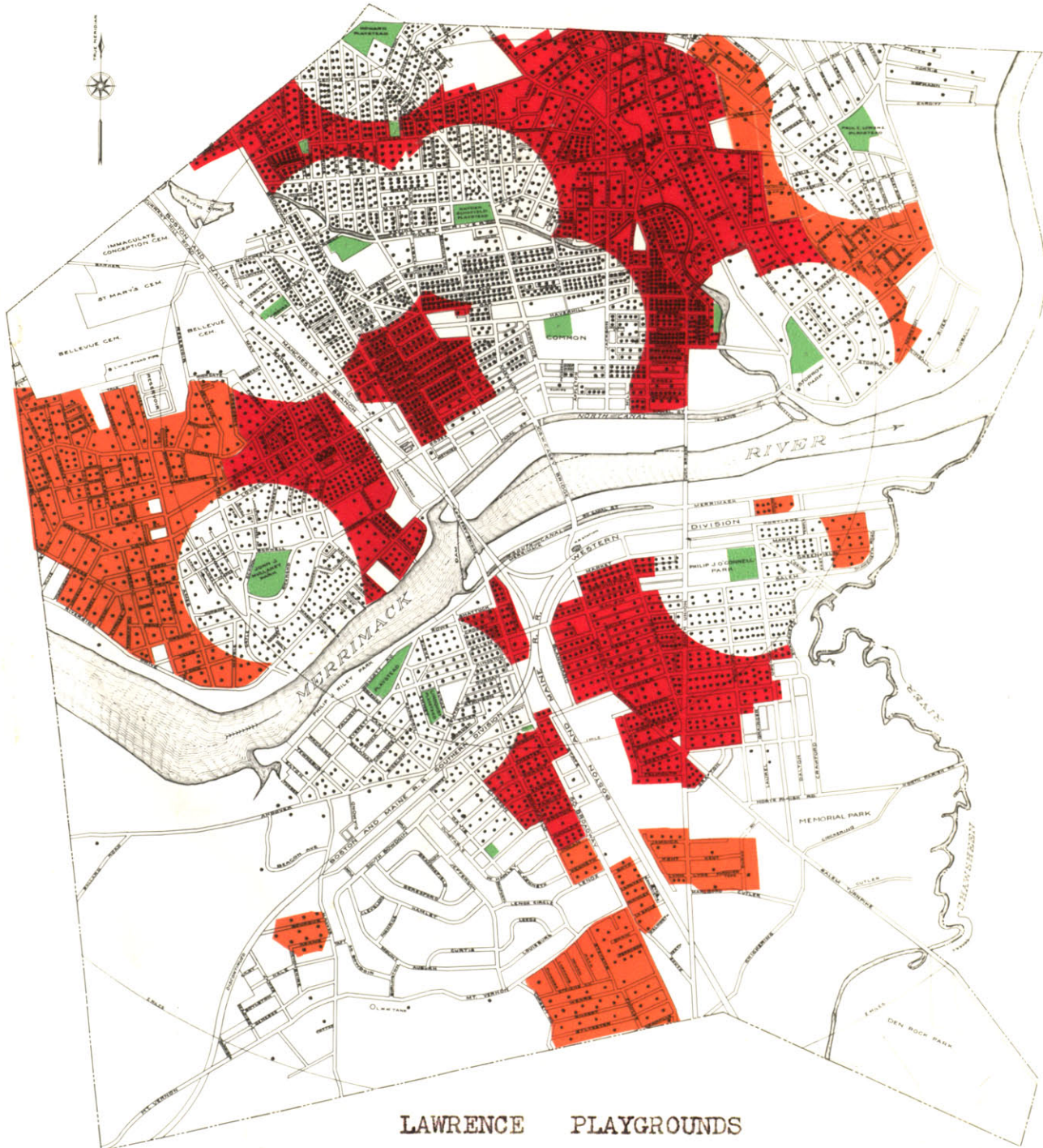
At present, the city of Lawrence has no area that qualifies as a playfield. Memorial Park, the only area that fulfills the area standard, is a specialized facility which includes the municipal stadium, football field, and running track. There are several areas in the city at present which are lacking in several of the requirements of a playfield, but with the addition of land and equipment, would become excellent playfields. These will be discussed in more detail in the section under Proposals.

PLAYGROUNDS

The neighborhood playground is a recreation area designed primarily for children in the six to fourteen age group. Its many requirements have been determined largely by the needs of the children in this age group. One basic requirement is that there should be a playground within easy walking distance of every child's home. Map (10) on the following page shows the present distribution of the city's playgrounds.

Accepted standards require a playground within a quarter to a half mile walking distance of every home. Because of the density of population and the many heavily trafficked streets, the minimum radius of one quarter mile has been used. The solid red on the map shows the areas in greatest need of playground facilities and the orange represents areas in which the need is secondary. It will be

MAP 10



LAWRENCE PLAYGROUNDS

One dot represents twenty people

- Existing playgrounds
- Areas in greatest need of playgrounds
- Areas in secondary need of playgrounds

noted that with the exception of a few areas, the most densely populated areas are well served. With the addition of a few new playgrounds and the expansion of several which are at present under one acre in size, the entire city can be satisfactorily served. Several acres are at present a part of city parks and the only expansion possible is at the expense of park land. This would be inadvisable because it would occur in areas where parks are vitally needed.

In general most of the playgrounds in the city are adequate in size for the areas they serve. The enlargement of several existing school playgrounds that at present are serving heavily populated areas would permit organized programs to be conducted for these centers. In some instances where large areas of land have been dedicated to playground use, the nature of the topography has limited the amount of usable space.

TABLE (14)

Playground Areas

Playground	(Acres)	
	Total Area	Acreage Used As Playground
Common	17.02	2.0
Riley Park	15.23	3.0
O'Connell Park	11.25	5.0
Storrow Park	10.75	4.0
Mullaney Park	7.50	6.0
Lorenz	5.50	4.0
Howard	4.63	4.43
Hayden Schofield	3.54	3.54
Kennedy	2.72	2.72
Lindquist	2.24	2.24
West St.	1.38	1.18
Tarbox	0.88	0.68

The table on the preceding page lists each playground with its total area and usable area after deductions have been made for playlots, parks and other unusable space. Baseball and softball activities of the Riley Park Playground are conducted at the Lindquist Playground. Ordinarily the Tarbox area is not considered a regular playground because of its small area.

Redesigning and re-equipping the existing areas would make them all conform to the minimum desirable standards. With the exception of the Common, all areas are lacking in a suitable playing surface. The Common has a turf surface while the remainder have a dirt cover. During the summer months, this surface becomes hot, dry and dusty. Another outstanding deficiency comes in the matter of rest rooms. In locations where schools are nearby, even these facilities are not available during the summer closing period of the schools. With the exception of three playgrounds, all have baseball and softball diamonds. None have bleachers or benches for spectators. Most playgrounds have facilities for the smaller activities such as horseshoe pitching and volleyball. All but three have play equipment such as swings, teeters, slides and sand-boxes. Many of them have fairly substantial baseball backstops provided. A table giving a complete list of the facilities available at the playgrounds may be found in appendix (C). In addition to these summertime activities, many of these grounds have sections flooded in winter for skating because there are no natural bodies of water within the city limits.

PARKS

Although the city has a large acreage of parks and park land, most of it is located in East South Lawrence. The largest developed area is in the extreme southeastern corner of the city and is not readily accessible by public transportation. Several areas designated as Parks and already named are undeveloped land. Other parks are found in combination with playgrounds. The complete list of public parks and park property is as follows:

TABLE (15)

Parks

<u>Park</u>	<u>Gross Area</u>	<u>Area Devoted to Park Development</u>
Den Rock	81.50	81.50
Shawsheen*	59.93	59.93
Costello*	10.00	10.00
Coyne*	5.00	5.00
Rowell	0.80	0.80
Stockton	0.37	0.37
Common	17.02	15.00
Riley	15.23	12.23
O'Connell	11.25	6.25
Mullaney	7.50	1.50
Storrow	10.75	6.75
		<u>199.33</u>

*Undeveloped Park land. See map (8) following page 31.

The table shows a total park acreage of not quite 200 acres. Of this total 124 acres are developed (the amount of development depending upon the nature of the park and its location).

A detailed description of the park areas follows:

1. Common

From the standpoint of location and development, **this**

is the most beautiful park in the city. The gross area of 17 acres is completely developed. Aside from the two and one half acres devoted to playlot and playground use, the remainder is completely developed. The development of this park took many years and involved considerable expense, but it is one area that Lawrence can be justly proud of. It provides a pleasant diversion from the bustling business district only a half block away. The High School is located opposite the North West corner of this area and students use the park during recess periods. The entire area is crisscrossed by paved walks. The large expanses of grass are well maintained, broken only by the many flower gardens found within the area. Combination concrete and wooden benches are provided along the edges of all walks and they are all located under the many trees which completely cover the area with cool shade during the hot summer days. A large wading pool and ornamental fountain are located in the center of the park. Adjacent to the pool is a large pavilion from which the radio broadcasts of the Boston baseball games are relayed to interested listeners by means of an amplifier. The children's playlot equipment is also located under the shade of trees in this center area. Underground rest rooms, the roof of which is a landscaped area, are also near the central section. Several War Memorials, monuments, and honor rolls occupy strategic locations in the park. The entire area is adequately lighted at night and very extensive storm drainage facilities have been installed.

2. O'Connell Park. (Often called the South Lawrence Common)

This park is very similar in character to the Common, but is smaller. More of its space is devoted to playground use, leaving about half of its gross area in park use. Practically the same facilities exist here as in the Common with the exception of the memorials and monuments. In addition, the entire area is fenced in. A particularly good effect is achieved by means of the sunken garden along the main street.

3. Den Rock Park.

This is the largest park area in the city. It is well on the outskirts and is a favorite destination of hikers. A W.P.A. project cleared out the brush and dead trees several years ago and built a system of dirt roads throughout the entire area. The feature of the park which can be clearly seen from the nearby highway is a large cliff-like outcropping of rock, from which the park derives its name. If the passing Shawsheen River were not polluted, excellent water recreation could be made available here. Several nature trails were also constructed by the W.P.A. In recent years appropriations have not been enough to properly maintain the park. Efforts should be made to continue maintenance of this area as it is one of the few large natural areas remaining within the city.

3. Shawsheen, Costello and Coyne Parks

These three park areas are a continuous strip running along the Shawsheen River.¹ Some sections of these areas

¹ See Map (1), following page 4.

cannot be developed because a considerable amount of the land in the latter two parks lies in the flood plain of the river. But there is much good, usable land in Shawsheen Park that should be developed.

4. Rowell.

This is a small well developed area in North Lawrence. It is well shaded and also contains paved walks and benches.

5. Riley.

This park is a long narrow strip along the south bank of the Merrimack River. It has an excellent collection of trees and the brush is fairly well cleared out. A system of paths wind through the woods and it is a very desirable picnic area. One bad aspect is the very steep embankment sloping off into the river. This makes it a dangerous area for children.

6. Mullaney.

The extent of the park facilities in this area is a grove of shade trees. The remainder of the area is devoted to a playground, a playlot, and an outdoor swimming pool.

7. Storrow Park.

The facilities of this park are the same as in Mullaney Park. A considerable section of the gross area is not usable because of the very steep terrain encountered along one side.

8. Stockton.

This is a small landscaped triangle in South Lawrence, occurring at the intersection of two main thoroughfares.

The greatest need seems to be for a smaller type neighborhood park in North Lawrence.

INDOOR RECREATION FACILITIES

Probably the biggest deficiency in the public recreation system of Lawrence is the lack of recreation buildings and indoor centers. The only indoor recreation center that the city owns is the Teen-Age Canteen which is an entirely new venture. This is a good example of what can be done with an abandoned school building. Formerly the Lawrence St., School, the building was closed when other and better school facilities became available in the neighborhood. Following a variety of uses, it was decided to convert it into a Teen-Age Canteen. Through the co-operation of the City Council and local social agencies the building was renovated last year and game equipment purchased. The latest installation was that of a dance floor. A roller skating rink is now being planned for the basement. At present, dancing, table tennis, miniature bowling, table games, crafts and hobbies are enjoyed three times weekly under supervision. Other facilities include a lounge and snack bar. The age group served is from 14 to 20 years inclusive. The latest membership figure is 1600 and a small dues payment of 25¢ for three months is required which contributes to the support of the organization. This is a fine example of what can be done with public buildings which are no longer being used. It is this type of program that will be discussed under the proposed change in the school system. The only other public indoor facilities available are the gymnasium in the High School used for high school basket-

ball games and dances, and the assembly hall in the Oliver School used for lectures and concerts. Because of the lack of public indoor recreation facilities, a survey was made of the recreation services and facilities of private and semi-public agencies, clubs and organizations. These agencies in addition to carrying their normal load must also make up for the lack of municipal facilities. Their facilities, which would normally suffice, become overcrowded and aggravate an already unfortunate situation. The following is a general summary of this survey.

The first organizations studied were those with indoor community center facilities and programs. They included the Y.M.C.A., Y.W.C.A., Y.M.H.A. and the Boys Club. The buildings of each of these organizations have facilities comparable to the minimum desirable facilities as set up in the standards for community centers. The outstanding deficiency noted was the lack of swimming facilities, the Y.M.C.A. having the only indoor pool in the entire city. The Y.M.C.A. also operates a summer camp in the White Mountain region of New Hampshire. In all cases participation was limited by lack of space and supervisory personnel. This survey also revealed the urgent need for a municipal building in which meeting rooms would be open for the use of the many civic organizations in the city. In the Y.M.C.A. alone, 75 different organizations use the club room facilities for their weekly or monthly meetings, most of these groups not being connected with the Y.M.C.A. The Y.W.C.A. facil-

ities are also used by many groups. In addition many organizations use the Y.W.C.A. stage facilities for the presentation of dramatic productions. Y.M.H.A. facilities include a junior canteen with a snack bar, and a Youth Canteen is operated each Friday at the Y.M.C.A.

Because of the large membership in each organization, their facilities and activities can be used very little by non-membership groups. This use occurs mainly through the medium of city wide tournaments and swimming meets. Present memberships of the various organizations are approximately as follows:

Y.M.C.A.....	2120 senior,....	780 boys
Y.W.C.A.....	800 adult.....	700 junior
Y.M.H.A.....	246 families...	802 individuals
Boys Club....	70 older boys..	1160 youths

Membership fees vary all the way from fifty cents per year in the Boys Club up to the twenty-five dollar family membership in the Y.M.H.A. Various membership fees in the other organizations range between three and twenty dollars per year.

Other youth organizations are the Boy Scouts and Girl Scouts. The Boy Scouts are very active with a 42 unit membership of 1200 boys and 400 adults. The council also conducts a boy scout summer camp in New Hampshire. The Girl Scouts do not have as many members, but they are equally as active. Their council conducts a summer camp located in Andover, Massachusetts.

There are about 36 assembly halls of varying capacity in the city. Many of these serve as the social halls of the

many local nationality clubs and organizations. The largest indoor area available is the State Armory, while St. Mary's Auditorium is the most popular and most frequently used hall. The latter is the scene of weekly dancing and most large banquets are held here, the capacity of the hall being in excess of 500 persons.

There are 57 churches in the city and the majority of these provide a youth program. Several have their own auditorium facilities in addition to the church proper and conduct their social and recreational activities here. Most Boy Scout and Girl Scout troops in the city are sponsored by churches.

Only one industrial plant provides any recreation for its employees. The Pacific Mills has a game room which can be used during lunch hours, but its use is largely confined to office workers. The person who needs recreation most is not served.

Commercial recreation facilities are many and varied. There are ten moving picture theaters in the city with a total seating capacity of 11,000 people. Two of these theaters are very large, seating between 2,000 and 2,500 persons. One theater runs a special children's show each Saturday morning.

The largest single indoor recreation activity is that of bowling. There are four commercial bowling alleys (duck pins) in the city, the largest of which houses 52 alleys. Many private clubs and organizations also have bowling fa-

cilities in the basement of their social buildings. At the height of the winter bowling season, as many as 1500 organized teams compete in leagues. A great many of these teams are composed^{of} mill workers who bowl in the great number of industrial leagues. Many championship tournaments are held each year and in the past, teams representing Lawrence have made very creditable showings in tournaments of a national character. In spite of the large number of bowling alleys in the city, additional facilities are needed to meet the demands of an ever increasing number of bowlers.

In addition to these facilities are a roller skating rink and two boxing and wrestling arenas. Taverns and night clubs are present only in moderate numbers. There are no golf facilities available in the city, but two excellent eighteen hole courses and one nine hole course are to be found in the three surrounding suburban communities of Andover, North Andover and Methuen. These are open on a membership basis and seem to be adequate for the needs of the golfing public in this vicinity. The economic status of most Lawrencians is such that golf is not usually to be found on the average recreation budget. In addition to the golfing facilities in these suburban towns, there also are a large number of small ponds at which Lawrence people maintain summer camps.

The very obvious conclusion reached is that there is a great and immediate need for public indoor recreation facilities in the city. The need seems to be greatest for a municipal auditorium housing an exposition hall and

gymnasium, organizational meeting rooms, banquet facilities and an indoor swimming pool. Most of these needs could be met with the building of a large municipal recreation center in the form of War Memorial Building. Agitation for such a project is very strong amongst the many civic groups in the city, but the City Council is at present opposed to the idea because of the great expense involved. The use of closed school buildings as neighborhood recreation centers would go a long way towards meeting the needs of this program.

SPECIAL AREAS

The City of Lawrence is very fortunate in having a fairly large municipal stadium and athletic field where football games, track meets, public celebrations and other large events are held. The site is Memorial Park in the southeastern section of the city. One unfortunate feature is its poor location in relation to the heavily populated areas of the city.

The Park consists of more than 23 acres of land, most of which is level and clear. The entire area has been fenced in with a very substantial steel wire fence. About seven acres of the property have been developed and the facilities provided include a well kept turf football field; a quarter mile cinder running track; a concrete stadium with a capacity of 7500 persons; a large field house providing locker rooms and showers; and a large practice field area. Rest rooms are provided under the stadium. No public transportation

is available to this spot, but busses are run on days that special events take place. The addition of temporary steel bleachers on the remaining sides of the football field raises the seating capacity to about 12,000 people. This area serves as the high school athletic field where its football and track activities are conducted. This includes both practice and regular season contests.

O'Sullivan Park is the municipally owned baseball park. The new bleachers and locker rooms that are now being installed will greatly improve this ball field. The park is also equipped with floodlight towers permitting night contests to be played. In addition to the public and parochial high school baseball games played here, this is the home field of the Lawrence Millionaires, a member of the New England Professional League. This club reimburses the city at the rate of \$25.00 for each game the team plays at the park. The playing field has been completely resodded and otherwise placed in excellent condition this spring. Most of the professional games are night contests, purposely arranged this way so as to insure a large attendance by the people working on the day shifts who are seeking evening recreation. This also frees the park for the afternoon high school contests.

Formerly many of the playgrounds were provided with tennis courts, but the lack of proper maintenance has caused the abandonment of the greater number of these and the areas are now either general play areas or have been

landscaped. At present there are only eight public tennis courts in the city, two each at Storrow Park, Riley Park, O'Connell Park and adjacent to the playlot on Inman Street. The reason for closing many of the courts was the extensive maintenance required to keep a clay surface court in good playing condition. Rather than to have taken this course of action resurfacing these courts with an all-weather surface would have been far wiser and this would have reduced maintenance costs to a bare minimum. A court with an all-weather surface could be used for other activities when tennis is out of season.

In spite of three rivers flowing through the city, there are no natural bodies of water available for recreation purposes; the reason for this is that these rivers are highly polluted, caused by the raw sewage and industrial wastes discharged directly into the rivers. In order to provide some water recreation the city has constructed four outdoor swimming pools over a period of years. A fifth pool is being contemplated for the near future. Each pool is 40 ft. by 120 ft. in size giving each a surface area of 4800 square feet. The water in these pools is chlorinated and recirculated three times daily in the two newer pools and twice daily in the older structures. Each pool has locker rooms, shower facilities, toilets, a first aid room and the standard life saving equipment. The original cost of each pool was \$120,000 in contrast to the estimated cost of \$200,000 for a similiar structure at the present time.

The four pools are well distributed throughout the city to insure maximum coverage of the population. The pools and their locations are as follows:

<u>Pool</u>	<u>Location</u>	<u>Area Served</u>
Allicorn	Riley Playground	West South Lawrence
Geissler	Storrow Park	Prospect Hill
Kennedy	Kennedy Playground	Central North Lawrence
Vaudreuil	Mullaney Park	Tower Hill

The fifth pool being contemplated will be so located as to serve the East South Lawrence section.

Lifeguard towers are standard equipment at all pools. Each pool also has a large open courtyard where sun-bathing may be enjoyed. The Allicorn Pool in Riley Park is also equipped with permanent bleachers for spectators and all city swimming meets are held at this pool. The pool is also equipped with spotlights for night swimming.

WINTER SPORTS

Lawrence is in a favorable climate for the enjoyment of winter sports activity. The major sports enjoyed within the city are skating and sledding. There are many slopes available in the suburbs for the skiers. The rolling meadows of the many farms in the suburbs together with a ski-tow in North Andover provide adequate skiing space.

Each winter the Park Department floods a portion of each of the major playgrounds for skating purposes. The areas are periodically resurfaced during the winter to provide continuous good, safe skating for the children in the city. In addition to these skating rinks certain streets in the hilly sections of the city are set aside as coasting

streets. After sufficient snow is on the ground to warrant good sledding, these streets are closed to traffic during certain hours of the day. In addition to blocking these streets with guard rails a large area is sanded at the foot of each hill to prevent the youthful coasters from sliding through into a trafficked cross-street. The streets that have been officially designated as coasting streets by the Lawrence Police Department in cooperation with the Department of Public Property and Parks are as follows: Allston, East Haverhill between Ferry and Marston, Swan between Berkley and Jackson, Fern, Butler, Dawes, Texas Ave., Brookfield, Carleton and Phillips. They have been carefully selected so as not to interrupt the normal flow of traffic, and yet be well distributed throughout the city.

ADMINISTRATION AND LEADERSHIP

Recreation like any other activity requiring guidance must have trained and adequate leadership personnel. The city falls far below standard in this respect. There is only one year round job associated with recreation in this city and that is the position of Swimming Pools Supervisor. The swimming pools leadership staff is much larger than the playgrounds staff because of the necessity for carrying out a well guarded safe program. The position of playground supervisor is a part-time summer job of ten weeks duration. Qualifications for this job are set up by the State Civil Service Commission. The remaining personnel are appointed by the Director of Public Property and Parks, also from a Civil Service eligibility list.

There is no Superintendent of Recreation as an individual position, but the Director of Public Property and Parks is the executive head of the recreation activities that are sponsored by the municipality. All administrative and policy making decisions relating to parks and recreation are made by this man. In addition to directing the functions of this department he is also a member of the five member City Council. There is no advisory commission or any other policy forming body or individual associated with recreation in the city. The main reason for the evident lack of recreational activity is the small annual appropriation for this activity. Although a sizeable sum is appropriated under the heading of "Recreation" the largest part of this sum is

expended on parks. The single item responsible for the very small leadership staff is again the lack of funds.

The 1946 organization of the Recreation Department¹ called for the following staff:

Supervisor of Playgrounds
Assistant Supervisor of Playgrounds.
Supervisor of Tests
Assistant Supervisor of Tests
Supervisor of Dancing
Supervisor of Sewing²
Eight Male Playground Instructors
Seventeen Female Playground Instructors

The lack of funds caused this staff to operate without the Supervisors of Dancing and Sewing, and three each of both the male and female instructors. This in turn reduced the number of grounds without supervision.

The first six named positions require rotating schedules. The Supervisor of Playgrounds and his assistant make daily inspections of all the playgrounds to insure proper functioning of the programs. The Supervisor of Tests and his assistant conduct ability tests at the various playgrounds and also assist in administering the general recreation program. They also provide leadership on a part-time basis at playgrounds not under a supervisor's direction. All leaders must pass a state civil service examination. Grades are based on education, experience and ability. Appointments are made from the eligibility list by the Director of Public Property and Parks. Regular bi-weekly

¹

All these positions were of 10 weeks duration only.

²

Serve in dual capacity of supervisor-caretakers.

instructors' meetings are held at which time programs, improvements and complaints are discussed. New playground instructors attend a short series of pre-season meetings at which time they are familiarized with the program by the Supervisors.

The leaders of the swimming program do not come under the jurisdiction of the playground department. The entire swimming pool organization is under the direction of the Supervisor of Swimming Pools, a full-time year round job. He not only is responsible for the program and leadership, but also the upkeep and maintenance of the physical plant.

Because of the ever present dangers in any swimming program, more and closer supervision is required to safeguard the participants. The four pools are the same in size and practically identical in layout. The same number are employed on each staff which is made up of the following personnel:

TABLE (16)

Swimming Pool Organization

Single Pool	Total for City
2 Lifeguard- Instructors	8
3 Lifeguards	12
1 Matron	4
1 Female Instructor	4

This gives a total of 7 for each pool and 28 for the city. In addition, each pool employs one laborer and a watchman when funds are available. All lifeguard personnel are qualified for their positions by virtue of passing the

life saving tests as set up by the American Red Cross. These are universally accepted standards. Similarly, the lack of funds keeps the swimming pool staff below desirable standards.

PROGRAM

One prime requisite of any successful public recreation system is a good program. It must be a year round program conducted both indoors and outdoors, designed to serve the needs of the young and old of both sexes.

The lack of such a program in Lawrence can be attributed directly to the lack of adequate funds for recreation. This prevents the purchasing of needed and necessary equipment and the employment of adequate leadership personnel. The existing program in this city is entirely a fair-weather outdoor type with the main stress being placed on physical activity and very little provision being made for the cultural activities.

The organized playground program begins about July first and it usually continues until the week-end before Labor Day, if sufficient funds are available. Playground and playlot equipment is erected as soon as the weather has become favorable for this outdoor activity. The equipment is not removed until well after Labor Day. Supervision of the play grounds is provided on the five week-days with no supervision on weekends. The hours during which playground instructors are on duty are as follows:

Women	9 - 11:30 AM	2 - 4:30 PM
Men	8 - 12 noon	1 - 6:00 PM

Programs with varying degrees of supervision are carried on during the summer months at eleven regular playgrounds, and at six school playgrounds or playlots. The program at the latter areas is restricted to games and story telling.

for the young children. The smaller areas are under the leadership of women instructors and the men supervise the more active athletic activities at the larger playgrounds.

The most active sports are baseball and softball. A regularly organized baseball league for boys and a softball league for girls with entries from each playground are the main items in the sports program. In addition, inter-playground volleyball games and track meets are also conducted. The main activities for girls and young children, in addition to softball, are games, sewing classes, story telling hours and lectures on cleanliness, safety and morals. Materials for doll making and limited handicraft projects are furnished at each playground. Budget limitations have caused the curtailment of many other activities. Play shovels and pails are furnished for the use of the younger children in the sand-boxes at each playground. A complete list of playground program activities are as follows:

- Baseball (Senior and Junior teams)
- Softball (" " " ")
- Sewing
- Handicraft
- Track Meet (once a season)
- Volley Ball (tournament at end of season)
- Doll and Baby Carriage Contest (once a season)
- Hikes (two or three per season)
- Swimming (average two times per week)
- Potato and Weenie Roasts (in conjunction with hikes)
- Safety Program
- Safety Show (once a season)
- Horseshoes (tournament at end of season)
- Airplane Contest (once per season)
- Annual playground outing with lunches furnished by recreation department.
- Skill Tests (progressive tests)

Attendance is supposed to be taken each day and recorded by the Assistant Supervisor, but these figures were not avail-

able. An estimate which was given by the Supervisor of Playgrounds places the attendance at an average of 1800 per day for an all playgrounds total.

The program at the various swimming pools is much more comprehensive. The staff at each pool is divided into a morning and afternoon shift. The morning shift begins at 7 A.M. Their duties include the readying of the pools for the day's activity. The organized program begins at 9 A.M. and three one hour instruction classes are held until noon. These classes are under the supervision of two lifeguard - instructors at each pool. General pleasure swimming is enjoyed from one to five P.M. with three lifeguards in attendance at each pool. These daytime activities are limited to children. From five to eight P.M. general swimming is conducted for adults. Instruction classes for this group are conducted from five to six P.M. The maximum capacity of each pool within safety standards is 225 persons per hour. During the hot season, each pool will average between 2000 and 2500 persons for the ten hour day.

A rotational system has two pools open each day for male swimmers and the other two for females. The pools open to each group are in alternate locations in the city so that no one will have an unduly long distance to travel to use the facilities.

EVALUATION of PRESENT RESOURCES

The evaluation of existing recreation areas and facilities on the basis of a desirable set of standards is a necessary step in the formulation of the long range plan. The problem of adapting a set of recreation standards is indeed a weighty one. The National Recreation Association¹ has developed a set of standards that are generally accepted as adequate. The existing recreation areas and facilities of Lawrence will be evaluated using these standards as a basis. Where a figure differing from the standard is deemed advisable, mention will be made of this.

Evaluation in terms of total area is not sufficient. The size of each facility in relation to the area it serves is also important. A city may meet the standard for the required area, but a large percentage of this space may be concentrated in a remote section of the city which is sparsely populated.

TOTAL ACREAGE

According to the accepted standard of one acre of open space for park and recreation use for each 100 of the population, the minimum acreage for the city of Lawrence, based on the estimated future population of 85,000 would be 850 acres. At the present time the city has 268 acres available for recreation, revealing an existing deficiency of 582 acres.

1

Standards For Neighborhood Recreation Areas and Facilities.
National Recreation Association, 315 Fourth Ave., New York 10, N.Y.
Published Oct., 1943.

PLAYLOTS

One eighth of a mile is an accepted standard for the maximum distance a child should be required to walk to a playlot. Because Cambridge and Lawrence are similar in most respects, it has been decided to adopt the standard of one acre of playlot area for each 10,000 of the population¹ which was the figure best adapted to the needs of Cambridge. The total acreage devoted to playlot facilities at present is approximately three acres. Using the above standard, eight and on⁹/_{half} acres are required thus showing a present deficiency of five and one half acres. Playlots are most urgently needed in the more densely populated areas. The equipment provided at most playlots is adequate, but the need for paved areas and benches for mothers is great. By using vacant lots throughout the city, it should be fairly easy to meet the desired standards.

PLAYFIELDS

At present Lawrence has no playfields. Several of the larger playgrounds would qualify if more land and equipment were added. On the basis of the accepted standard of one acre of playfield for each 800 of the population, the minimum for the city would be 106 acres. There should be a playfield within a half mile to a mile of every home depending upon the topography and circulation pattern which control the ease of access. The site should be a minimum size of ten

¹

Recreation In Cambridge, Cambridge Planning Board, 1946. P.27

acres, with twenty acres generally required to provide the necessary facilities. Each playfield should serve about 20,000 of the population.

The outlook for obtaining playfields in Lawrence which will conform to these standards is very gloomy for the foreseeable future. Sufficient vacant land is available near the southern boundary of the city, but obtaining sites of even minimum size in the highly developed section of the city would entail a tremendous financial outlay. The best solution is to enlarge a few of the existing playgrounds to playfield proportions using vacant land where possible and to utilize part of the Common and some of the adjacent residential property to provide a playfield for the High and Junior High Schools.

PLAYGROUNDS

It is an accepted standard that there be one acre of playground for each 1,000 of the population and on this basis the minimum acreage of playgrounds for the city would be 85 acres. At the present time approximately 39 acres are devoted to playground use, leaving a deficiency of 46 acres. The minimum size of a playground should be $2\frac{1}{2}$ acres and the maximum size should be six acres which is calculated to serve a population of 5,000 people. If a larger population is to be served in a single area it is preferable to develop several smaller playgrounds in the area served. There should be a playground within one quarter to a half mile of every home.

Lawrence is extremely fortunate in having such a large area devoted to playground use. Eight of the thirteen playgrounds and school playgrounds are larger than the minimum size of $2\frac{1}{2}$ acres. In addition to the above there are several playgrounds between one and two acres in size located in the more densely populated areas. By increasing the size of these smaller areas and adding several new playgrounds, the entire city will be adequately served using a walking distance of one quarter of a mile in the denser areas and one half mile in less dense outer areas. The most urgent needs of the present playgrounds/^{are}to redesign the present areas, and provide more equipment and a better surface on most of the grounds.

SWIMMING POOLS AND BATHING BEACHES.

There are no bathing beaches in the city because all natural bodies of water are polluted. However the city has provided four outdoor swimming pools. Total facilities should be capable of serving 3% of the total population at one time. Allowing 12 square feet per swimmer the four existing pools can serve 1,600 or approximately 1.9% of the entire population at one time. In order to meet the required standard, two additional pools are required.

BASEBALL AND SOFTBALL DIAMONDS

On the basis of the standard of one baseball diamond for each 6,000 of the population, there should be at least 15 baseball diamonds available. At present there are ten which leaves a deficiency of only five. On the basis of one softball diamond for each 3,000 of the population,

28 softball diamonds would be required. The present number is 14 or half the required number.

GOLF COURSES

There are no golf courses within the city limits and the small area of the city makes the addition of a course in the future practically an impossibility. Standards call for one hole of golf for each 3,000 of the population. At present there are two eighteen hole courses and one nine hole course within the Greater Lawrence area. Since golf is considerably above the financial means of a great many people, especially the large number of wage earners in this city, the existing courses are deemed adequate for the needs of the people in the district.

TENNIS COURTS

Applying the standard of one tennis court for each 2,000 of the population, the city should provide a minimum of 42 courts. The present number is only eight leaving a very marked deficiency of 34 courts.

OTHER FIELDS

Memorial Park is the site of the Municipal Stadium. A large concrete grandstand, an excellent football field, a cinder running track and a field house comprise the facilities found here. O'Sullivan Park is the municipally owned baseball park. It is equipped with locker rooms, permanent bleachers, lights for night games and an excellent playing diamond. Facilities of this type are essential for a city of this size, preferably on a single site.

INDOOR FACILITIES

The only indoor recreation center owned by the city is the Teen Age Canteen. The activities enjoyed here are limited by the small size of the building. The following are generally recommended standards for indoor facilities:

- (a) There should be a community recreation building for year round use within a half mile to a mile of every home, one building being provided for each 20,000 of the population.
- (b) There should be one gymnasium for each 20,000 of population or less. The only gymnasium now available is located in the High School building.
- (c) A social or playroom for each 10,000 of the population or less.
- (d) An informal reading and quiet game room for each 10,000 or less
- (e) An indoor game room for each 10,000 or less.
- (f) A room equipped as an arts and crafts shop for each 10,000 or less.
- (g) A club or multiple use room for each 4,000 or less.
- (h) An indoor swimming pool for each 50,000 or less.

In recapitulation, the city of Lawrence falls far below standard in such factors as design, maintenance, sanitary provisions at playgrounds, and playground surfaces. The size, distribution, number and types of individual areas are fairly good with the exception of the complete lack of playfields. There are also no provisions at most playgrounds

for the activities of the different age groups, for arts and crafts, quiet games or many of the other activities so necessary in a broad program.

The city also lacks adequate park facilities. Many of the crowded areas are not served by any parks, the greatest part of the total park acreage being concentrated in South Lawrence, which houses only about 20% of the total population.

THE LONG RANGE PLAN

INTRODUCTION

Before presenting the detailed proposals, several general considerations should first be discussed. When formulating this plan several very important and vital considerations had to be kept constantly in mind. To bring Lawrence up to minimum standards would cost much more money than would be available even under the most favorable conditions. In the light of the present housing shortage, which is expected to continue for several more years, a program of demolishing existing structures to gain recreation space would also be very unrealistic. This procedure would be necessary if requirements are to be met in the areas of greatest density. Therefore the more practical recommendations have been made for the utilization of vacant areas for the needs of the immediate future and timing the more distant aspects of the program to coincide with the redevelopment of the areas of poorest housing. For the present, a sounder and greatly accelerated program for the most intensive use of existing facilities is being recommended.

Another consideration is the dependence of the final success of the plan on the policies and development of the public school system. Under the present administration, the School Department controls the activities inside the school buildings and the Department of Public Property and Parks controls the use of any play space available at school sites, which at present is very little. To avoid recommending expen-

sive municipal buildings for indoor recreation, the use of several school buildings now being operated far below their rated capacity is strongly urged for this purpose. Any outlay for new municipal buildings would be of far greater service to the community in the form of new modern school plants, which would both replace some worn-out poorly located structures and provide facilities in the growing section of the city. Beyond this pooling of municipal property is the recommendation that the over-all planning of the community recreation program become a cooperative venture in which the School Committee, the City Council, the Council of Social Service Agencies and lay citizens would participate.

The standards as set forth in a previous section have been applied in moderation in the proposed plan. In areas where no school buildings are available for recreational use, it is assumed that any new schools to be built in that area will be designed both for community use and for study purposes. The final total acreage falls below the desired minimum because of the difficulty encountered in securing land in the crowded sections of the city where these active areas are so urgently needed. The reason for not recommending a large number of additional parks in South Lawrence is that the preponderance of existing park acreage is already located in this area. Few parks have been recommended in North Lawrence because vacant land in this area is more urgently needed for active recreation areas. The important thing that should not be overlooked in carrying out the

long range program is that the need is not for outlying parks, but rather for neighborhood playground, playfield, park and indoor center facilities in the most heavily populated parts of the city.

Functional design has also been stressed. By redesigning many of the existing areas, a more intensive program can be conducted. Some of the recommended areas, which of necessity are of bare minimum standards, must be carefully designed to insure the maximum use from a minimum of space. The timing of land acquisition is discussed under the section assigning priorities to each project and an estimated cost schedule has also been prepared.

ADMINISTRATION AND LEADERSHIP

A program of acquisition and development cannot be carried out successfully unless a strong administration and a stable budget for development, operation and maintenance exist. At present the administration of parks and recreation is consolidated under the direction of a single executive, but the development, operation and maintenance of recreational areas is seriously handicapped by a grossly inadequate budget.

Proper leadership is necessary if any recreation program is to be successful. The lack of funds has curtailed leadership in Lawrence to the point where practically no organized program exists. The few paid playground leaders devote most of their time to conducting baseball and softball games. The need for full time year round leadership is extremely urgent.

The following general pattern of principles underlying administration has emerged as a result of many years of experience of national scope:

1. Full time trained leadership.
2. A separate budget for recreation.
3. The availability of all publicly owned property suitable for recreational use.
4. A broad and varied program.
5. A commission or other organized group of citizens giving continuous attention to a community-wide program.

If we are to evaluate the existing administration using the aforementioned criteria as a yardstick, Lawrence would qual-

¹
Recommendations as to Administration, Program and Leadership Personnel. National Recreation Association. May, 1943.

ify on the third point only.

Essential to the success of any recreational program is the concentration of authority over the program in a single, strong executive head. Fortunately the present commission form of government does set up such an authority. It is therefore recommended that this present organization continue with certain additions designed to strengthen the Recreational Administration.

Under the present system the Director of Public Property and Parks is the administrative head of all public property, which includes parks, school grounds and all recreational facilities. As pointed out in the Survey, the Director makes all administrative and policy forming decisions. Directly under him are a Superintendent of Parks and a foreman supervising the maintenance work on public buildings. But there is no one responsible for the execution of recreational policy. Therefore it is recommended that a full-time year round Supervisor of Programs and Activities be provided in the administrative organization. He would be responsible for the performance of the administrative functions assigned to him by the Director. He would also serve as a technical advisor to the Director and represent him in recreational matters in the Director's absence. He would recruit his own staff with the approval of the Director and organize, train and supervise all recreational personnel. He would directly supervise the making and execution of the program, and be directly responsible to the Director for the proper operation of all recre-

ation areas and facilities under the control of the department.

Requirements for this position include at least two years' experience as a director, teacher or organizer in a municipal recreation system; a college education or its equivalent; special training in a particular field such as the social sciences, physical and health education, arts and crafts, music and other recreational activities. Standards for this size city place his minimum age at 25 years, but in view of the great responsibility carried by this position, an older person of at least thirty is recommended.¹ The recommended salary range is from \$2400 to \$3800 annually, which would be in keeping with the present municipal salary scale.

In most cities the chief recreation executive gives full time the year round to the recreation program. In some cities, such as Lawrence, the chief executive has other responsibilities and the year round full-time worker is an assistant or some other member of his staff. In some cities the program is entirely in the hands of a recreation board or commission. In the case of Lawrence it was felt that this latter type of administration would have small chance of succeeding because too many personal differences would arise among the board members, weakening and greatly handicapping the work of the board or commission. This conclusion was reached through personal observation of

1

These criteria adapted from Recreation Leadership Standards, copyrighted 1944 by the National Recreation Association. All other leadership criteria used in this section are from the same source.

existing conditions in the city. In lieu of an official board, it is strongly recommended that an advisory commission be appointed, having no official authority or power.

As its title implies it would be purely of an advisory nature. This commission should be small enough for efficiency yet large enough for adequate representation. According to practice five years is an efficient term and the terms should be staggered to provide for continuity of policy.

The commission should be composed of citizens interested in furthering community recreation, and all associations and groups in the city connected with any type of recreation should be represented. There should be one representative for each of the following groups: the civic associations such as the Kiwanis and the Rotary Club; the membership agencies such as the Y.M.C.A and the Boys' Club; the youth organizations such as the Boy Scouts and the Girl Scouts; the Protestant churches; the Catholic Youth Organizations; the industrial groups; and the commercial recreation group.

The main duty of this commission will be to function in a liaison capacity between the people and the Director of the Department. In this way closer co-ordination between public and private recreation programs and the use of facilities would be set up. The final decision regarding any recommendations made by the Commission would rest with the Director. Through the medium of this Commission the Director would at all times be in close contact with all recreation activities taking place in the city, and a more efficient use of recreation areas and facilities would result.

In addition to the Program and Activities Supervisor, other leaders are needed. The only full-time year round position in the present organization is that of Supervisor of Swimming Pools. Because of the long experience of the present Supervisor in this capacity, it is recommended that he be retained with the new title of Supervisor of Special Facilities. A knowledge of the problems involved in the construction, management and maintenance of a wide range of recreation facilities is necessary. Included in the duties of the present Supervisor is the responsibility for the upkeep, operation and maintenance of the pools. The recommended salary range of from \$2400 to \$3600 a year includes the present salary of this Supervisor.

With the exception of the above recommended workers to be employed on a year round basis, it is expected that the directors of playgrounds and indoor centers will be part-time workers employed on a seasonal, per diem or hourly basis. But as the program develops, it may be necessary to employ more full-time personnel and experts which might include some of the following:

- Supervisor of Athletics
- Supervisor of Drama and Music
- Supervisor of Arts and Crafts
- Recreation Center Director
- Playfield Director

It is recommended that each playground have a supervisor during the period the organized program is in effect, making this a seasonal position. General qualifications include at least one year of experience as an assistant in some phase of recreation work; familiarity with the play

interests and needs of children of different ages; a college education or its equivalent; and be at least 24 years of age. In this city it is recommended that these supervisors be employed on a weekly basis with the recommended salary being \$30 to \$50 per week.

The swimming pools leadership staff as discussed in the Survey is adequate under the existing conditions, but an additional man should be available for each pool when the pools become crowded during the very hot weather. Additional personnel will be required as new pools are added to the system.

PROGRAM AND ACTIVITIES

It is beyond the scope of this report to go at any great length into detailed suggestions as to program and activities. The program should be developed by the leadership staff. Only general recommendations as to what the program should include will be mentioned here. One vital point is that the program must be spontaneous and flexible. The program will vary from section to section within the city, governed by the facilities existing in each area and the people served by these facilities.

Municipal recreation as it is known today undertakes to serve a wide variety of interests. Included among these interests are craft work, participation in games and sports, nature study, music, dancing, dramatics and the desire for complete relaxation. The seasons of the year will dictate the type of activities to be included such as swimming and boating in the summer, with skating and sledding in the winter. Indoor events will include dancing, hobby and club groups, and the various table games.

The scope of the program is limited only by the imagination of those responsible for its development and the wants of those who will participate. The following is a partial list of activities that may be included in the program:¹

Track and field	Roller skating
Mass athletics	Gymnastics
Baseball	Storytelling

¹ For a complete list of recreation activities see pages 52 - 57 of Municipal Recreation Administration, second edition, 1945. The International City Managers' Association.

Softball	Festivals
Soccer	Community singing
Football	Glee clubs
Touch football	Social games
Basketball	Painting
Field hockey	Sketching
Free play	Sewing
Volley ball	Leather craft
Horseshoes	Wood working
Tennis	Metal work
Paddle tennis	Gardening
Badminton	Dancing
Archery	Lecturers
Field ball	Camping
Handball	Day camping
Water sports	Picnics
Winter sports	Hobby groups
Bowling	Nature hikes

Certain criteria for a sound program have been developed through the experience of a large number of cities over a period of years. Every municipal recreation program should:¹

1. Provide equality of opportunity for all.
2. Provide a wide range of individual choices.
3. Be continuous the year round
4. Serve all ages and both sexes.
5. Encourage family recreation.
6. Fully utilize all existing facilities.
7. Encourage passive as well as active recreation.
8. Provide activities for different periods of time.
9. Be correlated with programs of other agencies in the city.
10. Be correlated with leisure time training provided in schools.
11. Encourage initiative among the participants in managing their own activities.
12. Provide activities of a progressive nature.

¹
Ibid p. 59 - 62.

13. Provide activities at the adult level.
14. Provide inexpensive charges and fees.
15. Use the available funds to best advantage.
16. Assure safe and healthful activities.
17. Cater to the needs and interests of the people in different parts of the city.
18. Be flexible, changing with conditions and needs.

Among the factors to be considered as brought out by the Survey are nationality, race, occupation, education, economic status and standard of living of the people for whom the program is being designed. A program that appeals to a cultured group may fail in an industrial area with a high percentage of underprivileged foreign-born. Since both classes exist in Lawrence, these factors must be carefully weighed.

The program should be much broader than a mere playground service. Programs of satisfying and relaxing activities must be provided not only for the children and young people, but for the adult community as well, which is much larger than the child population. The program should be conceived of on a broad community basis in which the municipal interests and the cooperation of semi-public agencies are all correlated and utilized. It must be fully realized that the recreational properties are not ends in themselves, but are part of the means by which the values of a public recreation program are brought to the citizens of the community.

SCHOOL PROPOSALS

The Long Range Recreation Plan is greatly dependent upon the ultimate disposition of several school properties. Under the existing system the facilities of the large number of buildings in operation are only partially used; in many cases the use is less than 50% of the rated capacity. As it was brought out in the Survey many of the structures are very old and others are poorly located, which causes a great overlapping of facilities in some areas. Although the existing system is designed to be an 8 - 4 system, the size of many of the schools makes this an impossibility. As a result, great stress has been placed on the consolidation of facilities which will result in a much more efficient use of school buildings. Therefore the following proposals are being made:

(1) Change the present system to a 6 - 3 - 3 system. In this organization the present high school will be retained. The Oliver School, with its capacity of 1,200 pupils will become the junior high school for North Lawrence. Temporary junior high facilities for South Lawrence will be provided in the Breen and Wetherbee Schools until alternate facilities are provided. The larger and more modern elementary schools will be retained for grade 1 - 6 and the smaller schools no longer in use will either be demolished or converted to neighborhood recreation center use.

(2) The four oldest school buildings in the city should be closed immediately and these buildings should then be razed, the sites being converted to other uses. Included

in this group are the old four room wooden structures, the Prospect Street, Lowell Street and Riverside schools; and the old Washington School which is a brick structure. All these sites should be converted to playlot use except the Riverside site, which should be sold because it is not suitable for playlot purposes. The salvage value of the first three mentioned is about \$500 each. The cost of filling in the foundation hole would be about \$200 in each case. The Riverside lot could be sold for about \$800 and the city would realize about \$1,700 from these three buildings. The salvage value of the Washington School is about \$1,200 and it would cost about \$300 to level off this site. Therefore the city should be able to realize a profit of about \$2,600¹ on the sale of the four structures.

(3) The following schools should be closed and remodelled for neighborhood recreation center use:

Lawlor School	Park Street
Donovan School	Cross Street
Arlington School	Tenney Street
Essex School	Essex Street ²
Kehoe School	South Union Street

In addition to the above, recreation facilities should also be provided in the Rollins, Leonard and Saunders Schools in order to provide for all parts of the city.

(4) The program would also require the addition of several new structures, either to replace antiquated buildings or to provide facilities in the growing sections of the city. These would include new elementary schools on

¹ Based on current costs. Estimates prepared by Mr. Patrick Murphy, Building Inspector, City of Lawrence.

² This building has not been in use for several years.

Tower Hill, Prospect Hill and the West Street area. These buildings would replace obsolete schools in North Lawrence. Another proposal for this area is to enlarge the Amesbury Street School to accommodate the pupils who formerly attended the Donovan School.

(5) In South Lawrence new elementary schools will be needed in the Mount Vernon Park area when that section becomes more thoroughly developed and in the Colonial Heights area, the site of a large private subdivision and the Veterans' Housing Project. Because the Boston and Maine Railroad very effectively splits South Lawrence, junior high school facilities must be provided on both sides of the track. A tentative site for the East South Lawrence Junior High School is on the corner of Andover Street and Winthrop Avenue. A large playground area is also available at this site. A second junior high might well be located in the Mount Vernon Park area. A second possibility for the West South Lawrence area is to build two new elementary schools and utilize the fairly new Saunders School for junior high purposes. Several of these possibilities have already been considered by the School Department and the construction of several new schools in the near future is a distinct possibility. The speed of a large part of this program is dependent upon the rate of development of the new subdivisions in South Lawrence. It is hoped that any new schools built in the future will be designed so as to include recreation facilities easily accessible for wider use by the public.

Map (11) on the following page shows the distribution of schools and the areas served under the proposed system. The following remaining schools would become the elementary schools housing grades K - 6:

<u>School</u>	<u>Number of Rooms</u>
Storrow	8
Rollins	14
Leonard	28
Leahy	24
Tarbox	20
Amesbury St.	9
Wetherbee	10
Packard	11
Breen	14

Plus the proposed new elementary schools.

The total number of rooms available under the new plan are more than adequate to care for the present school population and any foreseeable increases. The following table shows the breakdown of pupils by grades covered in the 6 - 3 - 3 system.

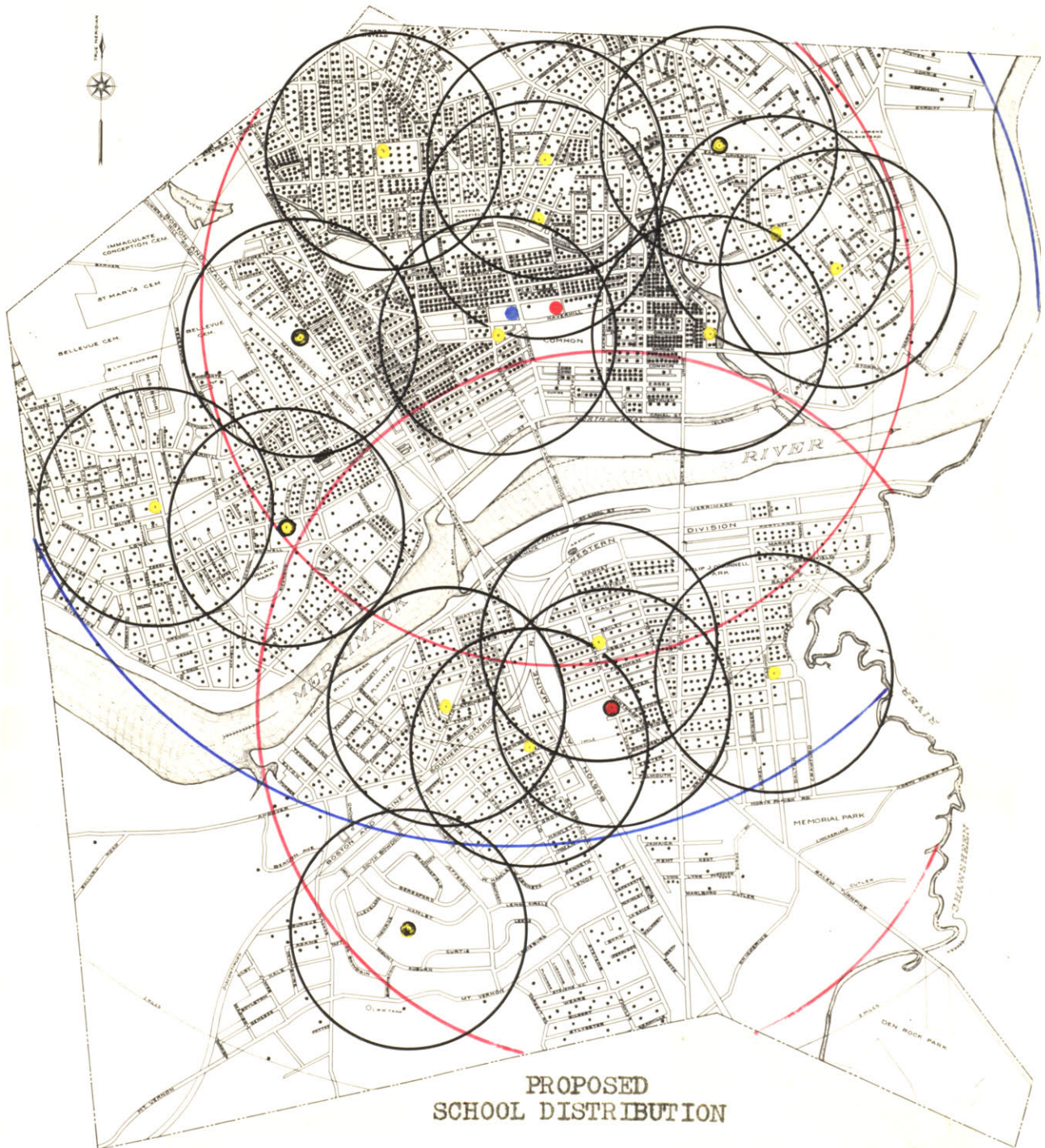
TABLE (17)

<u>Grades</u>	<u>1946 Enrollment</u>	<u>Capacity</u>
K - 6	3,608	5,056
7 - 9	1,649*	1,200
10 - 12	<u>1,590</u>	<u>2,884</u>
	6,847	9,140

*Junior High Classes in South Lawrence would be held temporarily in the Breen and Wetherbee Schools pending completion of other facilities.

The figures in the above table show that existing elementary and High School facilities are more than adequate and the construction of one new school building in South Lawrence would solve the Junior High problem. Not shown in the total capacity are the proposed elementary schools in North Lawrence.

MAP 11



PROPOSED
SCHOOL DISTRIBUTION

- Elementary School
- Junior High School
- High School
- Proposed buildings are circled in black
- One-third Mile Radius
- One Mile Radius
- 1½ Mile Radius

FUNCTIONAL DESIGN

In cities having high population densities and small land areas, the greatest possible use must be made of all recreation areas. This is the case in Lawrence and it is proposed that all existing recreation areas be redesigned so as to obtain the maximum use from each area. It is not the intent of this report to design each individual playground and playfield, but general design points will be enumerated.

A playlot should be located so as to provide easy access to those who use it. Benches should be placed around the wading pool and apparatus area so that mothers may keep a watchful eye on their playing children while they themselves are relaxing. Paved walks should be available around both of these areas so that baby carriages may be easily wheeled to the benches. Trees should be planted so as to provide shade for these benches. A hedge along the street side will help to reduce street noises and keep out the dust.

The design of a playfield will vary with the size and shape of the area. But regardless of the shape, the following principles should govern the design:

- (1) Recreation Building. It should be centrally located for the efficient control of activities. This will place the showers and dressing rooms near the sports areas.

¹
Planning For Recreation Areas and Facilities in Small Towns and Cities. J. Lee Brown, Consultant. Federal Security Agency.

- (2) General Playfield. This is the largest unit of the entire area. It will have two or three softball diamonds, a baseball diamond with bleachers and the possibility of superimposing football and soccer fields over the baseball diamond.
- (3) Children's Playground. This should be separated from the adult's area by trees and the multiple use course for reasons of safety. It should contain a free play area, a small softball field and an apparatus area. It should be fairly close to the Recreation Building for efficient supervision. Immediately adjacent to the Recreation Building is a tot's area. This should include a wading pool, a sandbox and simple play apparatus. Shade trees are also welcome in this area.
- (4) Multiple Use Area. This all-weather surface area provides space for volley ball, badminton, basketball and shuffleboard. Net posts and goal posts should be set in sockets in the pavement so that the area can be cleared for roller skating. Lights for the night use of the area are desirable but not necessary.
- (5) Tennis Courts. There should be light courts, close to the street for easy accessibility and near the Recreation Building for control.
- (6) Parking Space. The amount of space set aside for parking depends upon the popularity of the field. Space for approximately 160 cars is usually considered to be adequate.

The need for redesigning the existing playgrounds is very great. A neighborhood playground should furnish recreation opportunities for the entire family, although the area is primarily developed for children. The following is a brief discussion of the features that might be found in a typical playground:¹

- (1) Tots' Area. Designed for the very young children, and should be located near the main entrance and also near the playground building. It should include the usual playlot facilities.
- (2) Wading Pool. Placed close to the recreation building to facilitate control and reduce construction cost.
- (3) Apparatus Area. For the older children. Concentrated in a special area surrounded by a low fence. This arrangement makes for effective supervision and use of space.
- (4) Low Organized Game Area. Adjoining apparatus area and is for the young children.
- (5) Multiple-Use Paved Area. Serves the same purpose as the area discussed under playfields.
- (6) Playground Building. Should be located near the main entrance and near the center of control for the children's areas.
- (7) Craft and Quiet Game Area and Stage. A section adjoin-

¹ Source: Explanation of the Study for the Development of a Neighborhood Playground. National Recreation Association. M. P. # 345 - 12 - 43

ing the playground building for quiet, small group activities. It should be removed from the sections where large noisy groups are likely to be found.

- (8) Informal Group Games Corner. Tether-tennis, goal-hi, horseshoes and croquet facilities are found here.
- (9) Large Open Area For Field Games. Nearly half of the playground is devoted to team games such as softball, football, soccer and field hockey.
- (10) Game Courts. One end of the playground is developed for court games. Two tennis courts, volley ball, paddle tennis, badminton and shuffleboard courts for adults are found in this area, preferably fenced in. Basketball and handball courts for men and boys are also included in the area.
- (11) Rest Corner For Adults. Benches and table game facilities are provided for adults in the shade.
- (12) Landscaping. Trees and shrubs should be planted outside the fence surrounding the playground. Trees are also planted inside the area where shady spots are desirable.

PLAYFIELD PROPOSALS

The playfield is usually thought of as a larger area which serves the needs of youths and adults, although a section is often developed as a children's playground. It is designed to provide the widest range of facilities possible for diversified use by people of all ages. Most people attend the playfield less frequently and stay for longer periods of time because this area is usually located at a greater distance from their homes. Each section of the city should have a playfield. Where possible a playfield should adjoin the high school and junior high school sites. If sufficient land is available the playfield may be developed as a landscaped playfield-park. Of the four proposed playfields in Lawrence, three are of this type. A playfield between ten and twenty acres in size should be provided for each 20,000 of the population. The facilities that a playfield should provide have been discussed in the section on Functional Design.









Because of the complete lack of playfields in Lawrence four areas have been proposed. They are so located that the entire population is within a one mile walking distance of a playfield. The individual areas will be explained below and may be located more accurately by referring to Map (12).

Key #1. Memorial Park, East South Lawrence.

This city owned area is the present site of the municipal stadium and football field. This area consists of

MAP 12



- | | |
|--|---|
|  Existing playgrounds |  Existing parks |
|  Existing playlots |  Proposed playlots |
|  Key number |  Proposed areas |
|  Proposed recreation centers from old schools | |
|  Proposed recreation facilities in schools | |

23.48 acres of flat , clear, fenced in land. The only other facilities now on the property are a field house containing showers and locker rooms and the rest rooms under the stadium. The existing facilities occupy about eight acres of the total area and the remaining vacant acreage should be developed as a playfield.

The expense of development would not be very great and would be confined entirely to the purchase and installation of the necessary equipment and all-weather surfaces. It is also recommended that a playground area of about three and one half acres be developed on the site because of the large amount of new housing under construction in the immediate vicinity. The equipping of the playground should be postponed until an adequate population in the area will justify this action. Another good feature about the location of this playfield is its proximity to both Den Rock and Shawsheen Parks. The large triangular piece of public land located at the entrance to Memorial Park and bounded by the Salem Turnpike, North Parish Road and Osgood Street should be developed for parking purposes. The entire cost of development could be spread out over a period of years adding a new facility when the demand warrants it.

Key #2. Mullaney Park, Tower Hill Area.

At present Mullaney Park is a combination playground and park $7\frac{1}{2}$ acres in size. Included in the park is an outdoor swimming pool. It is ideally located to serve the entire population living west of Broadway and north of the

Merrimack River. The taking of approximately 9 acres of vacant land along the southern edge of the existing field would give the playfield a total area of 13 acres after deducting $3\frac{1}{2}$ acres for the retention of the existing playground and swimming pool. Because the playing field is considerably below the level of the streets bordering the north and west sides of the area, the embankment would provide an excellent location for the installation of inexpensive bleachers. The existing baseball and softball fields are in great demand by the teams of many of the organized leagues in the city.

Key #3. The Common, Central Section of the City.

At present the High School and the proposed Junior High School are without playfield facilities. All of the High School athletic practice sessions must be conducted at remotely located Memorial and O'Sullivan Parks. It is proposed that a playfield be established adjacent to these two schools, the land for this area being taken partly from the Common, partly from a block of substandard housing and the remainder from the closing of a part of Haverhill Street. This latter proposal will necessitate the relocation of route 110 along Oak and Tremont Streets.

The area of the Common is 17 acres, most of it being a landscaped park. It is proposed that the section of the Common fronting on Haverhill Street be taken for playfield use. The widest part of this strip is 400 feet at the middle and it amounts to approximately 7 acres in area. The

residential block across the street which is composed of substandard housing is about 3 acres in size. An additional acre of ground will be gained from the closed section of Haverhill Street making a total playfield area of 11 acres.

Key #4. Riley Park Playfield, West South Lawrence Section.

The addition of a playfield to the already good facilities of Riley Park and Playground is recommended, but not for the immediate future. The playfield at Memorial Park will adequately serve South Lawrence until a substantial population increase warrants an additional playfield. The presence of an outdoor swimming pool on the Riley Playground is a desirable feature that can be incorporated into the design of the area. The proposed site consists of approximately $13\frac{1}{2}$ acres of partially wooded land which is fairly level. This playfield is designed to serve the area west of the Boston and Maine Railroad line.

The cost of the acquisition of the land and development of facilities will now be discussed. The problems encountered are different at each site as is the cost of the land. Therefore an approximate cost for the development of a twelve acre playfield will be discussed and variations from this will be made as needed for each of the proposed playfields. This estimate is presented on the following page.

Playground	\$ 20,000
Fencing	10,000
Field House	15,000
Bleachers and benches	2,500
Multiple use area	5,000
Lighting for night use	7,500
4 Handball Courts (all weather surface)	3,000
8 Tennis Courts (all weather surface)	12,000
Landscaping	5,000
Miscellaneous items: water lines, drainage, sewer connections, backstops, walks, special court areas and equipment.	<u>7,500</u>
Total	\$ 92,500

In developing Memorial Park, the fencing and field house are already installed. The land is already owned by the city, thus eliminating another cost. Lights for night use are also being eliminated for the present as an unnecessary expense. The estimated cost for this area is as follows:

Development	\$ 35,000
Land acquisition	<u>-----</u>
Total	\$ <u>35,000</u>

Mullaney Park will not require too extensive development costs either. Some additional playground equipment is necessary and some grading of the new property will be required. The only fencing necessary will be for the new area, and sanitary facilities have already been installed in connection with the swimming pool. The estimated cost for this area is as follows:

Development	\$ 33,355
Land acquisition (9 ac.)	<u>12,000</u>
Total	\$ 45,355

By far the most expensive field to develop will be the Common. Relocation of the playground area will not be necessary in the design. Field house facilities can be provided

in the basement of the junior high school which at present is the Oliver School. A large part of the landscaping cost will be saved by transplanting many of the trees in the area. The total cost will be approximately divided as follows:

Development	\$ 53,000
Land acquisition (3 ac.)	<u>236,000</u>
Total	\$ 289,000

The cost of developing the Riley Playfield would include the playground development cost because the existing playground is a poorly shaped piece of ground greatly limiting the possible activities. In addition, the best parts of the area are occupied by the swimming pool and two tennis courts. The approximate cost of developing this area is as follows:

Development	\$ 90,000
Land acquisition (13.5 ac)	<u>58,700</u>
Total	\$ 148,700

The grand total for acquiring and developing four playfields will be approximately \$518,055.00.

PLAYGROUND PROPOSALS

In formulating the playground proposals, an attempt has been made to provide each elementary school with a playground of at least the minimum desirable size. With the addition of the proposed playground, Lawrence comes very close to attaining the minimum desirable acreage standards. Upon examining the key map, it may seem that several of the playgrounds are very close to one another, but this is necessary because in congested areas, a playground can be useful only if it is easily accessible to the children who use it.

The proposals will be discussed separately for each major section of the city.

The Tower Hill Section.

Key #5.

A large playground is proposed opposite the Bruce School on Ames Street. This school has very little space in the rear and this playground will also serve the western half of Tower Hill. The area is approximately 4.6 acres. The land is fairly level requiring little grading and there are many large trees now growing around the periphery of the area.

Key #6.

In order to replace the obsolete Riverside and Lowell Street schools which will be demolished, and the small Essex Street School which will become a recreation center, a combination school and playground site is proposed on Essex Street between Warren and Greenwood Streets. Four

dwelling units will have to be razed, the remainder of the land being vacant at present. The area of this site is approximately 2.4 acres.

Key #7.

This proposal involves the relocation of a small playground presently being leased by the city, and providing a new site for the obsolete Washington School which is to be razed, the site to be used for a playlot. It is proposed that a large tract of vacant land located on West Street between Alden and Acton Streets, be used for a combination school and playground site. The land is very level and will require very little work to develop it into a first class playground. Being industrial property, the acquisition cost will be somewhat higher. The area of this site is 4.4 acres.

North Central Section Between The Spicket and Merrimack Rivers.

Key #8.

It is proposed that the Amesbury Street School be enlarged so as to better accommodate the children who formerly attended the Donovan School. A school playground of approximately $1\frac{1}{4}$ acres is proposed by acquiring the only available land in the block. This will necessitate the razing of 15 low rent dwelling units, most of them substandard. Included in this land is a vacant lot, the area of which is about 10,000 square feet.

Key #9.

This proposal involves the expansion of facilities. By razing twelve very poor dwelling units and acquiring a half

acre vacant plot of land, it will be possible to add approximately 1.2 acres to the existing Leonard School playground. This will widen a very narrow area so that normal playground activities can be conducted.

Central Section North of the Spicket River.

Key #10.

This proposal requires abandoning the existing small .88 acre Tarbox playground. The cost of expanding the existing playground is far out of proportion to area gained. It is recommended that this area be sold and the revenue thus obtained be used toward purchasing a much larger area immediately adjacent to the school. This site of 3.5 acres will cost just half as much as it would cost to expand the existing playground to similar proportions. The type of housing that will be lost here consists for the most part of very old single family and duplex types.

Key #11.

This proposal involves the expansion of existing facilities. The main reason for this proposal is to rectify the poor shape of this area and facilitate the redesigning of the play spaces. The addition of this 2 acre plot makes the Howard Playground the largest in the system with a total area of 6.6 acres.

Key #12.

At present two of the largest and best elementary schools in the city have no play space. The proposed playground would provide a play area for both schools as they

are located on opposite corners of the proposed site. The block proposed for this playground is bounded by Park, Bruce, Avon and Saunders Streets. In order to acquire this two acre plot, twelve three family structures will have to be razed.

Key #13.

This proposal involves the replacement of an obsolete school on a new combination school and playground site. This school and playground would serve an area that would be without either facility when the old Prospect Street School is razed. The proposed site is a level area on the north side of Prospect Hill. Acquisition procedure will involve the demolition of two large, old single family homes.

Key #14.

It is proposed that playground facilities be provided adjacent to the Rollins School. The site is on Platt Street between Howard and Woodland Streets. The entire area is vacant land with the exception of one old single family structure that will be razed. The area is approximately $2\frac{1}{2}$ acres in size.

West South Lawrence Section.

Key #15.

This proposal involves the expansion of existing facilities. It is recommended that a vacant area approximately just under an acre in size be acquired adjoining the Wetherbee School. It is proposed that this area be developed as a school playground for the younger children,

leaving the Lundquist playground in the rear for the use of the older junior high students who will be housed temporarily in this school. The two recreation areas will provide separate play facilities for the two age groups encountered in this school.

Key #16.

This proposal is for the expansion of an existing area. It is recommended that approximately 3 acres of vacant land be acquired between Groton and Easton Street to increase the existing playlot area to playground size.

Key #17.

In the Mount Vernon Park subdivision approximately 9.7 acres of land have been set aside to be dedicated to public park, school and playground use. The park area follows a natural ridge and the school and playground area is a large level tract of land.

Key #18.

At the present time this large tract of land is owned by the Marist Fathers who plan to develop it for playground use. Although it will be a Parochial playground, the majority of the people in the area will be served as they are predominantly of French-Canadian descent. The total area of the vacant land in this tract is about six acres.

East South Lawrence Section.

Key #19.

It is proposed that a playground be established on the vacant railroad property on Andover Street. In addition to

the playground land, two old residential structures will be demolished on the corner of Andover Street and Winthrop Avenue to provide a site for a future school. A total of 3.7 acres are available at this site.

Key #20.

It is proposed that a playground be developed adjacent to the Breen School. This area should be large enough so that separate facilities can be provided for two different age groups because it is proposed to use part of this school as a temporary junior high school. The greater part of the proposed site is located on public land. This playground would be part of the development of Shawsheen Park. It is recommended that the entire area be approximately 5 acres.

DEVELOPMENT COST ESTIMATES.

In order to estimate the cost of developing these proposed playgrounds, the approximate cost for the development of a $3\frac{1}{2}$ acre playground, not including land acquisition, is as follows:

Playground shelter	\$ 5,000
2 Tennis courts	3,000
Fencing	5,000
Wading pool	3,000
Surfacing	7,500
Multiple use area	3,000
Apparatus	500
Benches, tables.	250
Landscaping	1,500
Water drainage, etc.	1,500
Miscellaneous	1,500
Total	\$ 31,750

Using this estimate as a basis for the larger areas and individual cost figures to be found in Appendix (D),

a tentative cost schedule was computed for each area. For areas adjacent to schools, the playground shelter was eliminated because it is planned to use facilities in the school building. The areas are listed by the same key numbers used in the preceding part of this section.

TABLE (18)

Area	Development Cost	Land Cost	Total Cost
Key #5	\$ 26,750	\$ 20,000	\$ 46,750
#6	20,000	22,545	42,545
#7	26,750	40,000	66,750
#8	10,000	23,000	33,000
#9	-----*	55,900	55,900
#10	20,000	88,000	108,000
#11	1,000	9,000	10,000
#12	15,000	112,000	127,000
#13	12,000	27,000	39,000
#14	15,000	31,000	46,000
#15	500	3,200	3,700
#16	30,000	13,000	43,000
#17	26,750	**	26,750
#18 #*	-----	-----	-----
#19	35,000	125,000	160,000
#20	26,750	3,900	30,650
TOTAL	\$ 265,500	\$ 573,545	\$ 839,045

* It is estimated that the salvage value of the structures removed from these areas will provide enough revenue for the small amount of development necessary. In cases where this sum is small it has been subtracted from the development cost.

** Dedicated to public use by the subdivision owner, the city to assume the responsibility for the upkeep.

#* To be developed by a semi-public agency.

In addition to developing these new areas the existing playgrounds are in need of much improvement. This should take place before any new areas are established. The table on the following page lists the estimated cost of these improvements.

TABLE (19)

# of Playgrounds in Need of Facilities	Facility	Unit Cost	Total Cost
4	Tennis courts	\$ 3,000	\$ 12,000
5	Fencing	5,000	25,000
5	Wading Pool	3,000	15,000
4	Surfacing	7,500	30,000
8	Multiple use area	3,000	24,000
3	Apparatus	500	1,500
4	Landscaping	1,500	6,000
TOTAL			\$ 113,500

Note: Where a proposal involves the expansion of an existing playground, the development cost included redesigning of the given area.

Therefore the entire playground program will cost approximately the following:

New Playgrounds	\$ 839,045
Old Playgrounds	113,500
Total	<u>\$1,052,545</u>

PARK PROPOSALS

Small neighborhood parks are most needed in North Lawrence. It is also in these same areas that additional active recreation facilities are needed. The high cost of obtaining the necessary land in these areas gives precedence to the acquisition of active recreation areas. The sections of the city that have considerable tracts of vacant land available are not in great need of parks because of the low population density and the natural park facilities offered by these open areas. It would also be unwise for the city to spend large sums for the maintenance of parks that are not widely used by the public. An alternate solution recommended is to landscape a small section of each playground and playfield, if space permits, and have these areas take the place of small neighborhood parks.

The following park proposals are herewith submitted:

Key #21.

The park land already owned by the city and dedicated as Shawsheen, Costello and Coyne Parks should be developed. The areas should include camping and picnic facilities, and a large parking space and general open play area should be provided in Shawsheen Park. An excellent nature and bridle trail should be developed along the bank of the Shawsheen River which winds along one side of the park area.

Key #22.

The lower half of the Lorenz Playground should be developed as a neighborhood park. The proposed park area

is a tree covered slope unsuitable for playground use. The clearing of brush and the providing of benches is all the work needed in this area.

Key #23.

Acquire the remaining vacant land located between the Salem Turnpike, Railroad Avenue, the Shawsheen River and the Andover boundary line. This would complete Den Rock Park, adding 33.6 acres making the total park area 115 acres. The total value of this additional property is only \$1,550. The entire park should be further developed and it should include more fireplaces, picnic tables, camping areas and trails.

Key #24.

The city should acquire a strip of land about 200 feet wide along the Shawsheen River between North Parish Road and the Salem Turnpike. This would mean the addition of approximately 13 acres of land at a cost of \$500. The main purpose for this acquisition is to provide a link between DenRock Park and Shawsheen Park; this would provide a continuous strip along the river extending from Den Rock Park through Shawsheen, Costello and Coyne Parks. A long nature and bridle trail could be developed along the entire length of this strip.

Key #25.

A small park should be developed on a vacant tract of land bounded by Maple and Short Streets and the Spicket River in North Lawrence. The area is approximately nine-tenths of an acre in size and would cost about \$3,900.

Key #26.

Development of a neighborhood park on the north bank of the Spicket River between Broadway and Wells Street is also recommended. The area of this vacant piece of land is about 3 acres and would cost approximately \$ 13,000.

Another project warranting consideration is the beautification of both banks of the Spicket River between the above mentioned proposed parks. Walk promenades should be included as part of the project.

The approximate cost of the park program would be as follows:

Location	Cost		Area
	Land	Development	
Den Rock Park	\$ 1,550	\$ 3,000	33.6 ac.
Shawsheen River Strip	500	1,000	13.0
Maple and Short	3,900	500	0.9
Broadway - Wells	13,000	1,000	3.0
Lorenz		500	
Shawsheen, Coyne, Costello Parks		4,000	
TOTAL	\$18,950	\$10,000	50.5 acres

PLAYLOT PROPOSALS

The definition of a playlot as adopted for this program is an area that provides play space and facilities both for the pre-school child and children up to and including the eight year olds. In densely built up areas, this facility takes children off the street and gives them a play space very close to home. The age limit has been raised in Lawrence because of the excessive distances many children will have to walk through the hazards of street traffic to reach a playground in order to use equipment similar to that provided at the playlot. From experience in Lawrence, it has been observed that baseball is usually not available to a child until he reaches the 4th grade in school.

The design of a playlot is very simple and a single design will usually suffice for all playlots. Ordinary house lots of about 5,000 square feet in area can easily be developed for this type of area. Aside from the necessary space, the only other requirements are shade and a good surface. Most of the area should be grass with a small paved area for children's vehicles.

The only equipment necessary includes swings, a slide, a sand box, and see-saws. If additional funds are available, a small wading pool and a jungle gym should be provided. Particularly desirable are benches for the mothers watching

¹ Specifications for the playlot adopted from those set up for a totlot in the Cambridge Recreation Study, page 25.

their children at play.

The program recommends the acquisition of playlot space from two sources: the first is to set aside a small area at each of the existing parks and playgrounds where this has not already been done; the second is the development of vacant house lots in strategic locations throughout the city. If the needed $5\frac{1}{2}$ acres of playlots are to be obtained, this would mean the addition of about 45 playlots if each were approximately 5,000 square feet in area. Lots recommended for immediate acquisition are located in the red areas as shown on map (9). Facilities for the areas in which the need is secondary (shown in orange on the same map) can be obtained over a longer period of time because backyard play facilities will suffice for the time being.

Map (12) shows the location of the proposed playlots. This is by no means complete because the schedule for the acquisition of playlots is probably the most flexible of any of the land acquisition programs. The lots chosen have been vacant for a considerable length of time because they are not particularly desirable building land. Small attempt has been made to designate playlots in sections of the city where real estate ownership is in a state of flux. Because of the small land area necessary for this facility, the land for a playlot is relatively easy to acquire when the need arises. Only the areas in most urgent need of playlots have been studied.

Approximately thirty such areas have been proposed for

the immediate future. Some are from vacant lots, others are a part of a playground and three are proposed on old public building sites. The land for twenty-two of these playlots is at present in the form of vacant building lots. The average valuation of these lots is ten cents per square foot. This would place the average cost of a 5,000 square foot lot at \$ 500. The following is an approximate cost schedule for the development of a playlot of 5,000 square feet.¹

Grading and drainage	\$	50.00
Lawn preparation		75.00
Water supply		20.00
Fencing		260.00
Landscape planting		50.00
Wading pool 15' x 25'		1500.00
All weather surface		50.00
Apparatus:		
Sand box		15.00
Slide		40.00
Chair swings (3)		40.00
Benches (\$10. each)		50.00
Land acquisition		<u>500.00</u>
Total	\$	2,650.00

A playlot utilizing an abandoned school site or built on playground property would cost about \$2150 which uses the above figures less the cost of land acquisition. Therefore the total playlot program would cost approximately the following:

22 playlots at \$2650.00 each.	\$	58,300
8 playlots at \$2150.00 each.		<u>17,200</u>
Total	\$	75,500

¹

See Appendix (D) for cost schedules used in these computations.

OTHER FACILITIES

Aside from the neighborhood recreation centers, Lawrence most needs a community auditorium and an indoor year round swimming pool.

Recently the Planning Board submitted revised plans for a Municipal Auditorium to the City Council. This structure plans for an auditorium on the main floor with a seating capacity of 2,000 and a balcony seating an additional 1,000 persons. A proposed banquet hall in the basement would seat 1,000 persons. A 90 foot stage is also proposed for the auditorium. As an improvement to these plans, it is recommended that a swimming pool and various club and hobby rooms replace the banquet hall. The proposed site for the auditorium, which is also recommended in this report, is the former Parker property bordering Haverhill, Lawrence and Oak Streets. This would provide an excellent central location for the greater part of the population. This would round out an excellent civic unit composed of the High and Junior High Schools, the Common, and the proposed High School playfield. Another indoor swimming pool is also desirable for the South Lawrence area after this section is well built up. A fifth outdoor swimming pool is planned for the East South Lawrence area in the near future. The proposed site is on Osgood Street near the site of the proposed Breen School Playground. The estimated costs of these projects are as follows:

Auditorium	\$ 250,000
Outdoor Swimming Pool	200,000
	<hr/>
	\$ 450,000

TRAFFIC

Traffic was studied only where it influenced recreational planning. Many heavily travelled streets act as natural boundaries of some neighborhoods. Major highways have been shown on the large map accompanying this report. One future project that would greatly influence the location of recreation and school properties is a relocation of Route 28 to by-pass the city. Broadway would then cease to be a barrier between Tower Hill and the central section of the city.

The proposal for locating a playfield on the Common and on property bordering on Haverhill Street will necessitate relocating Route 110 from Haverhill Street to Oak and Tremont Streets. This would require intersection treatment at the corner of Hampshire, Oak, Tremont and Cross Streets, probably in the form of a traffic circle. This relocation will not cause any inconvenience because through traffic going from Lowell to Haverhill uses Route 113 in preference to Route 110. Routes 110 and 113 coincide from Lowell to Haverhill with the exception of a part of Route 113 which by-passes Lawrence. Route 113 branches off through Methuen just before the western boundary of Lawrence is reached and rejoins the main highway again in East Methuen, after leaving the city limits of Lawrence. It is a three lane road and the distance is the same regardless of the route taken. The section of Route 113 which passes through the city is very undesirable because it cuts

through the densest parts of the city on narrow streets with many bad intersections.

The proposal for locating a playground at the corner of Andover Street and Winthrop Avenue gives rise to another traffic problem. There are only three crossings over the main line of the Boston and Maine Railroad which divides South Lawrence in half. The Salem and South Union Street crossings are grade separations and the Andover Street crossing is at grade, crossing four sets of tracks at this point. It is also an expensive crossing to maintain. The traffic volume on the street is not great, but the River Road to Lowell on the south side of the Merrimack River is a direct extension of this street. In order to make the playground safe, the entire area would have to be fenced off to keep the children out of the freight yards. This can be accomplished by closing the Andover Street crossing and erecting a fence along the playground boundaries, which would continue along Andover Street and cross the street at its intersection with Blanchard Street. In this way the Railroad would eliminate the maintenance of an expensive crossing and children would not be able to penetrate into the freight yards. In return for the savings effected by closing this crossing, the Railroad should be willing to sell the property needed for the playground.

Traffic normally using Andover Street would now continue up Parker Street, to Salem Street, and then reach the

River Road via Salem and Everett Streets. The River Road is a so called "back road" to Lowell. It is very narrow, winds considerably and it is not used very extensively. If this road is ever developed as a Lowell-to-the-sea parkway, alternate facilities for the traffic normally using Andover Street could be provided by means of a grade separation crossing in the vicinity of Kent Street.

FINANCE

The following table gives a breakdown of all park and recreation expenditures for the past five years.

TABLE (20)

Total Recreation Expenditures

	1945	1944	1943	1942	1941
Parks	\$54,070	\$50,383	\$48,470	\$49,573	\$49,009
Salaries	47,857	44,186	43,179	41,977	38,619
Other	6,212	6,197	5,290	7,596	10,390
Playgrounds	8,316	6,949	6,445	6,970	7,024
Salaries	4,313	3,509	3,427	3,589	3,739
Other	4,003	3,439	3,017	3,380	3,284
Tennis courts	193	142	138	159	280
Swimming pools	20,831	15,211	14,824	13,960	13,907
Salaries	9,572	9,946	9,318	8,617	11,315
Supervisor	1,754	1,456	2,270	2,062	-----
Other	9,505	3,808	3,236	3,281	2,592
Celebrations	3,561	3,447	4,210	3,842	2,318
State parks & Reservations tax	2,679	3,611	2,460	3,291	-----
TOTAL RECREATION	\$89,653	\$79,745	\$76,550	\$78,298*	\$72,540

* Includes skating rink expense of \$449.50

The National Recreation Association has estimated that the total park and recreation expenditures should be about \$3.00 per capita annually. This does not include capital expenditures for acquiring and developing new areas nor does it include interest on indebtedness. If we use 85,000 as the population of Lawrence, this would mean an annual total expenditure of \$255,000. Present expenditures are only about 35% of this desirable figure. Of this \$3.00, approximately 75¢ should be spent on leadership, 75¢ on nonleadership per-

CITY DEBT STATEMENT

DECEMBER 31, 1946

Year	Total Valuation	Abatement	Net Valuation
1946	\$87,156,779.00	\$278,538.00	\$86,878,241.00
1945	85,479,655.00	294,725.00	85,184,930.00
1944	85,905,449.00	847,131.38	85,058,317.62
	\$258,541,883.00	\$1,420,394.38	\$257,121,488.62
Average Valuation—Three Years			\$85,707,162.00
2½% of Average Valuation			2,142,679.00
		Within Limit	Outside Limit
Bonded Debt January 1, 1946		\$92,000.00	\$1,472,000.00
Bonds Redeemed in 1946		25,000.00	241,000.00
		\$67,000.00	\$1,231,000.00
Loans negotiated in 1946:			
First Veterans' Housing Loan "Acts of 1946"			\$33,000.00
Lawrence Water Mains Loan, Issue of 1946			12,000.00
			\$1,276,000.00
			67,000.00
			\$1,343,000.00
Total Bonded Debt December 31, 1946 ...			1,276,000.00
Bonds Outside Debt Limit			\$67,000.00
Debt Within Limit December 31, 1946 ..			\$2,142,679.00
2½% of Average Valuation for three years prior, 1944, 1945 and 1946			2,075,679.00
Borrowing Capacity December 31, 1946 ..			1,286,000.00
Ordinary Debt January 1, 1946			33,000.00
Ordinary Debt Negotiated in 1946			\$1,319,000.00
			240,000.00
			\$1,079,000.00

WATER DEBT

Water Debt January 1, 1946	\$278,000.00
Water Debt Negotiated in 1946	12,000.00
	\$290,000.00
Water Bonds Redeemed in 1946	26,000.00
	\$264,000.00
Ordinary and Net Water Debt December 31, 1946	\$1,343,000.00

TEMPORARY LOAN DEBT

Temporary Loans Negotiated in 1946	\$1,500,000.00
Temporary Loans Paid in 1946	1,500,000.00
Total Bonded and Temporary Loan Debt December 31, 1946	\$1,343,000.00

sonnel and supplies and the remaining \$1.50 on the general maintenance of recreation facilities and general park areas.

The chart on the following page shows the relation of recreation expenditures to other municipal expenditures. In 1945 this amount was only 1.7% of the total municipal operating expense and about 2.8% of the total expenditures met by the tax levy.

The table on the preceding page gives a clear picture of the debt structure of the city. ¹ Of a total of 3.41 millions that have been borrowed during the period covered by these tables, 1.37 millions have been for welfare and relief. These welfare loans were all made during the depression and were nearly repaid during the more favorable economic times of the war years. This is a very significant point when considering a long range program of capital expenditures. An economic depression would cause a repetition of this situation because the basic economy is dependent upon the textile industry located in the city. Since most of the working people in the city are employed by the textile mills, bad times in these mills would affect the majority of the people in the city. This in turn would cause the welfare and relief load to skyrocket. The increased load could not be met by the tax levy because in times of depression the payments of taxes fall off considerably. Therefore the only

¹

See Appendix (E) for more complete debt statement.

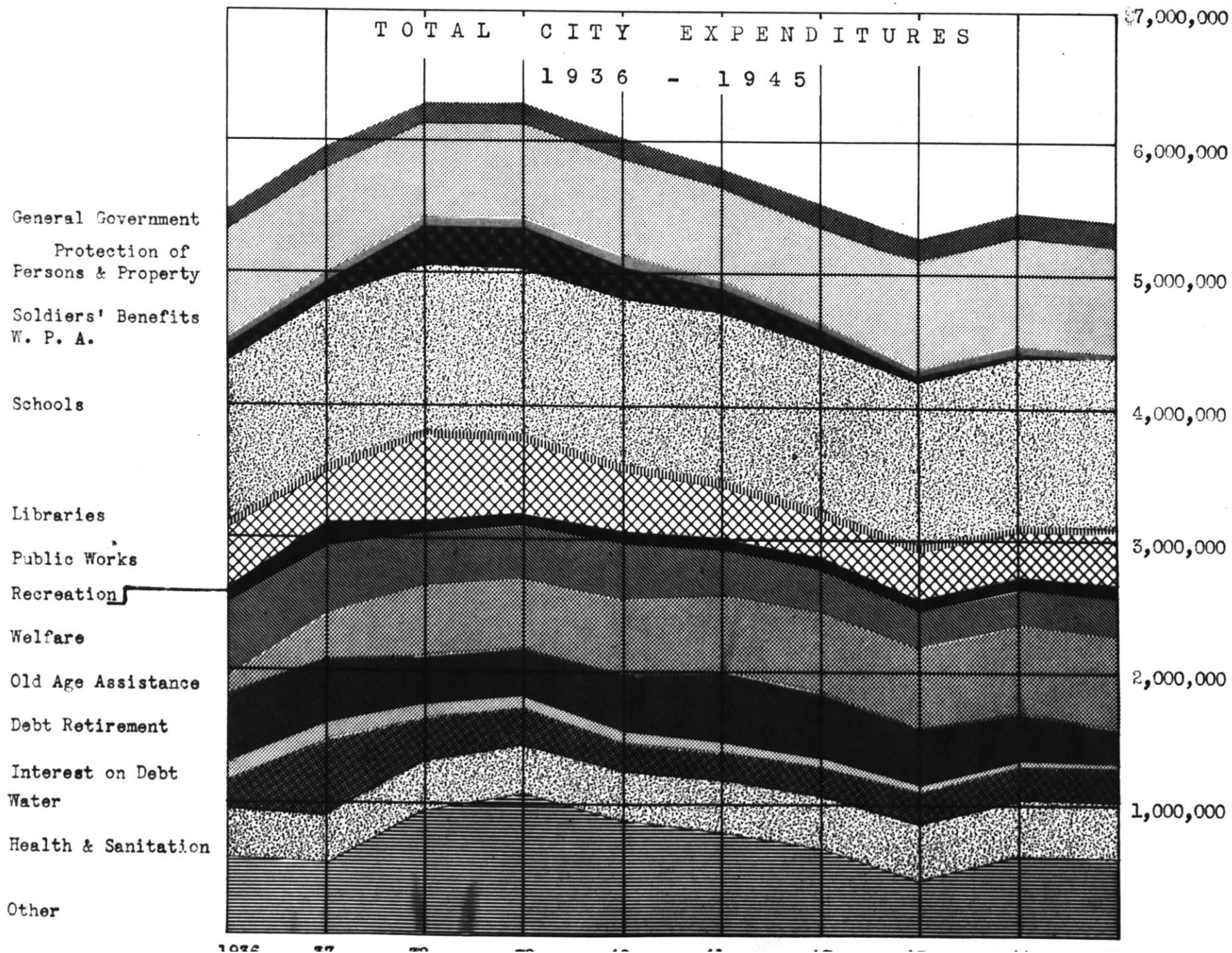


FIGURE 2
- 111 -

solution would be to borrow large sums to meet the relief payments.

Since a large part of the borrowing capacity of the city would therefore be taken up by loans for relief, very little would be available for other purposes. Thus a long range program for recreational capital outlays would have to proceed very cautiously. Another factor that must be considered is the relation of the tax rate and the total valuations. Since 1930 total valuations have dropped about \$ 40,000,000 and the tax rate has increased from \$ 27.60 to \$ 38.80 per \$ 1,000 valuation.¹ This indicates that in order to meet a tax levy that remains fairly constant from year to year, the property owner is still paying the same levy on property that is steadily declining in value. This can very soon cause an unhealthy financial situation.

The general financial structure of the city is shown by table 21 on page 113. The large expenditures from bonds during the depression years were for welfare and relief. Bonded indebtedness has shown a steady decrease because of the favorable economic conditions of the war years. Although the Excess and Deficiency Fund was over a half million dollars in 1945, the steady drain imposed upon this fund in 1946 and 1947 have virtually wiped it out.

In view of these facts the following financial program is suggested. Assuming that \$3.00 per capita will be spent for recreation during each of the next 25 years, an annual total of \$ 255,000 would be spent on recreation. The entire

¹ See Appendix (f) for tax rates and total valuations.

GENERAL FINANCIAL STRUCTURE

	<u>Total Expenditures</u>	<u>Expenditures from Revenue</u>	<u>Expenditures from Bonds</u>	<u>Bonded Indebtedness</u>	<u>Excess and Deficiency</u>
1930	5,525,000.	5,146,000.	379,000.	4,452,000.	139,000.
1931	6,099,000.	5,413,000.	680,000.	4,797,000.	82,000.
1932	5,712,000.	4,968,000.	744,000.	4,731,000.	68,000.
1933	4,917,000.	4,882,000.	35,000.	4,139,000.	291,000.
1934	5,296,000.	5,284,000.	12,000.	3,636,000.	169,000.
1935	5,200,000.	4,995,000.	205,000.	3,378,000.	151,000.
1936	5,518,000.	5,158,000.	360,000.	3,398,000.	183,000.
1937	5,954,000.	5,327,000.	627,000.	3,193,000.	126,000.
1938	6,336,000.	6,006,000.	330,000.	3,350,000.	96,000.
1939	6,337,000.	5,914,000.	423,000.	3,212,000.	29,000.
1940	6,066,000.	5,999,000.	67,000.	3,169,000.	11,000.
1941	5,803,000.	5,798,000.	5,000.	2,934,000.	15,000.
1942	5,531,000.	5,531,000.		2,654,000.	284,000.
1943	5,289,000.	5,289,000.		2,224,000.	427,000.
1944	5,463,000.	5,463,000.		1,857,000.	559,000.
1945	5,427,000.	5,427,000.		1,564,000.	556,000.

TABLE 21

development cost of the Long Range Plan will be approximately \$ 655,000. Over a 25 year period this would amount to approximately \$ 26,000 per year. It is proposed that the development cost be met from current operating expenses, leaving a total of \$ 229,009 for operating the recreation program. In the early stages of the program before the extensive increases in facilities have taken place, more money should be available for development. It is proposed that the acquisition part of the program, amounting to 1.36 millions be met by bond issues.¹ In this way an economic depression would not affect the development part of the program too much which is important because it is the more important phase of the program at present.

In computing the acquisition costs of the various properties, two methods were employed. The value of all property on which residential buildings were standing was computed by capitalizing the rents at 6%. Vacant property was valued by comparing the assessed valuation with the actual cost of the land if it were to be bought on the present day market. In most cases this latter cost was the higher of the two and consequently was the one used in the study.

Assigning broad general priority ratings to these projects results in the following schedule:

- (1) Develop all existing facilities more fully.
- (2) Develop more playlot facilities in congested areas.
- (3) Acquire the recommended vacant properties,

¹

Includes cost of swimming pool and auditorium.

It is recommended that any areas requiring the demolition of housing be placed at the end of the priority listing in view of the serious housing shortage which will continue for some time to come. Recreation development in these areas should coincide with the redevelopment of the entire area.

Indoor facilities should be provided immediately in the schools that have been recommended for that purpose. The site for the auditorium is already owned by the city and this should be the first new structure to be built as it very urgently needed by the community. The new out-door swimming pool can be constructed when the demand for it is of sufficient proportions to warrant it.

The approximate cost of the entire program is as follows:

New Playfields	\$	518,055
New Playgrounds		839,045
Redesign Old Playgrounds		113,500
Parks		28,950
Playlots		75,500
Auditorium		250,000
Swimming Pool		200,000
<hr/>		
TOTAL		\$2,025,050

APPENDIX (A)

VALUE OF SCHOOL PROPERTIES

School	- Land -		- Buildings -	
	Area S.F.	Value	Value	Total
Lawrence High	105,963	\$120,250	\$800,000	\$920,000
Amesbury St.	12,186	9,000	45,000	54,000
Arlington	35,239	8,000	45,000	53,000
Breen	67,492	10,000	120,000	130,000
Bruce	51,600	13,000	150,000	163,000
Donovan	15,704	7,200	68,000	75,200
Essex	25,595	4,300	33,000	37,300
Hood	40,525	10,000	150,000	160,000
Lawlor	25,600	7,600	70,000	77,600
Leonard	40,000	15,000	270,000	285,000
Lowell St.	10,375	4,650	10,000	14,650
Oliver	48,410	33,900	280,000	313,900
Packard	37,500	12,500	50,000	62,500
Prospect St.	7,320	4,400	9,000	13,400
Riverside	20,080	3,500	10,000	13,500
Rollins	39,790	6,000	140,000	146,000
Saunders	35,600	14,250	65,000	79,250
Storrow	40,000	4,000	75,000	79,000
Tarbox	44,355	7,500	125,000	132,500
Washington	14,194	5,000	20,000	25,000
Wetherbee	62,895	7,500	100,000	107,500
Leahy	62,061	13,800	290,000	303,800

APPENDIX (B)

SCHOOL ENROLLMENTS 1927 TO 1946

School	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928	1927
Amesbury	155	154	152	167	191	231	237	231	246	241	204	246	197	191	209	217	235	268	312	327
Arlington	149	159	172	169	176	186	195	195	160	154	148	153	165	170	182	208	218	249	260	277
Breen	279	270	295	308	292	316	335	364	346	356	390	426	467	458	477	510	522	516	526	535
Bruce	556	557	546	508	496	539	578	613	610	669	659	652	651	626	641	644	649	626	641	679
Donovan	110	116	129	126	157	167	168	158	196	209	243	247	218	-	-	-	-	-	-	-
Essex	210	205	222	244	289	249	254	208	222	238	256	246	268	267	264	264	266	250	252	247
Hood	355	370	394	417	412	420	431	460	455	484	512	511	526	561	604	658	674	702	719	743
Lawlor	179	138	148	140	152	163	156	177	192	190	216	215	203	220	210	233	249	252	290	286
Leahy	218	172	170	188	222	260	286	357	381	354	372	452	453	485	536	613	638	669	724	787
Leonard	285	225	223	294	326	345	401	417	395	395	424	525	515	556	575	575	618	647	770	861
Lowell St.	90	91	96	79	104	83	80	91	87	83	92	111	108	104	110	120	135	117	135	117
Oliver	373	408	439	494	526	541	639	702	803	920	1008	1047	1096	1173	1180	1173	1194	1186	1222	1200
Packard	225	228	221	225	239	246	264	289	248	246	281	312	350	367	391	395	368	385	421	422
Prospect St.	95	102	96	97	111	122	135	140	139	144	138	133	150	168	181	166	165	179	173	186
Riverside	70	79	89	89	78	81	85	86	95	101	88	90	95	100	105	97	108	113	116	108
Rollins	279	296	305	310	299	306	329	358	390	401	422	434	448	492	489	514	516	495	529	541
Saunders	145	157	135	148	149	151	141	152	170	173	179	209	223	215	228	206	221	240	248	237
Storrow	176	164	169	176	167	178	168	185	169	187	193	214	215	217	240	237	250	275	278	267
Tarbox	374	407	414	437	452	455	485	526	539	544	568	609	631	680	707	733	692	735	740	727
Washington	99	96	120	103	107	112	113	111	107	105	110	98	110	115	124	124	133	117	121	126
Wetherbee	182	207	223	241	232	251	274	280	296	335	329	364	376	377	358	355	369	384	379	378
High School	2120	2156	2336	2641	3121	3579	3800	3747	3556	3649	3649	3713	3445	3272	3038	2836	2563	2529	2364	2130

APPENDIX (C)

PLAYGROUND FACILITIES

Area	Softball	Baseball	Tennis	Pavillion	Apparatus	Basketball	Volleyball	Swimming Pool	Horseshoes	Shade Trees	Fenced	Rest Rooms	Showers	Football
Common	X	X	-	X	X	-	X	X	-	X	X	-	-	-
Riley Park	-	-	X	-	X	-	X	X	X	-	-	X	X	-
O'Connell Park	X	X	X	X	X	-	X	-	X	X	X	X	-	X
Storrow Park	X	X	X	-	X	-	X	X	-	X	-	X	X	-
Mullaney Park	X	X	-	-	X	-	X	X	-	X	X	-	X	X
Lorenz	X	X	-	-	X	-	X	X	-	-	-	-	-	X
Howard	X	X	-	-	-	-	X	-	X	-	-	-	-	X
Hayden Schofield	X	X	-	-	-	-	X	-	X	-	X	-	-	X
Kennedy	X	X	-	-	X	-	X	X	X	-	-	X	X	-
Leonard	-	-	-	-	X	-	X	-	X	-	X	-	-	-
Lundquist	X	X	-	-	-	-	X	-	X	-	-	X	-	-
West Street	X	-	-	-	X	-	X	-	X	-	-	-	-	-
Tarbox	X	-	-	-	X	-	X	-	-	X	-	X	-	-

Rest rooms at Riley Park, Storrow Park, Mullaney Park and at the Kennedy Playground are located in the outdoor swimming pool facilities at these areas.

Football fields are superimposed over the other playing fields in the autumn of each year and temporary goal posts are erected.

APPENDIX (D)

COST FACTORS

Wading pools

30 by 50 feet, rectangular concrete. \$2500 - \$5000

Multiple use areas

70 feet wide. \$6.00 per lineal foot for hard surfacing.
\$2.00 per lineal foot for fencing.
An area 70 by 150 feet would cost \$3000 with fencing,
surfacing, net standards and alignment of courts.

Handball courts.

Double handball courts with concrete surface and a
central reinforced concrete backstop serving both
courts. Cost, \$1600.

Tennis courts.

All-weather surfaced, \$1500 - \$2500.

Surfacing.

All-weather surfacing for playgrounds and game court
areas, \$1.90 - \$2.50 per yard.

Apparatus.

Pre-school children.

Sand box.	\$15.00
Playhouse	\$20.00
Jungle gym	\$60.00
Slides	\$40.00
Chair swings, unit of 3.	\$40.00
See-saws, unit of 3.	\$20.00
Bench.	\$10.00

Older children.

Slides	\$85.00
Swings, unit of 3.	\$80.00
Giant stride	\$50.00
Horizontal ladders.	\$45.00
Horizontal bars.	\$30.00
Outdoor gym.	\$150.00
Goal-Hi.	\$25.00
Merry-go-round.	\$250.00

A three and one half acre playground completely developed
would cost \$31,750.

A twelve acre playfield completely developed would cost
\$92,500. In both of these estimates the cost of the land
is not included.

Source: National Recreation Association Reports.

ADDITIONAL COST FIGURES

Grading and drainage.		
Earth moved,	cu. yd.	\$ 0.80
Fine grading,	sq. yd.	.10
4" farm tile,	lin. ft.	.50
15" conc. pipe,	"	2.25
18" conc. pipe,	"	2.50
Lawn preparation.		
Topsoil 4" deep,	sq. yd.	.50
Seeding	"	.69
Sodding	"	.40
Water supply.		
Pipe	lin. ft.	0.50-1.50
Sanitary sewer	lin. ft.	2.25
Walks.		
Concrete 4" thick,	sq. yd.	2.00
Drives and parking areas.		
Concrete 6" thick,	sq. yd.	2.50
Fencing.		
6' chain link,	lin. ft.	1.10
Baseball backstop	(40')	160.00
Softball backstop	(20')	80.00
Tennis backstop	lin. ft.	1.60
Landscape planting.		
Trees 2½" dia.	each	20.00
Shrubs	"	1.00
Hedge	lin. ft.	.10
Buildings.		
Field house	sq. ft.	4.00
Storage	"	4.00
Pavilion	"	1.50
Activity facilities.		
Wood bleachers	seat	1.50
Picnic tables	each	12.00
Lighting equipment.		
Tennis	each	400.00
Softball	"	2,500.00
Baseball	"	3,600.00

Source: Planning For Recreation Areas and Facilities in Small Towns and Cities. Federal Security Agency, 1945.

BONDED DEBT — JANUARY 1, 1947

INSIDE DEBT LIMIT

Name of Loan	Date of Issue	Duration	Amt. of Orig. Loan	Expiration Date	Rate of Int. %	Annual Payment	Int. for 1946	Amount Outstanding
BRIDGE LOANS								
Bridge Loan 1931	5-1-1931	20	120,000.00	5-1-1951	3½	8,000.00	1,260.00	40,000.00
SEWER LOANS								
Sewer Loan 1922	6-1-1922	30	30,000.00	6-1-1952	4¼	1,000.00	233.75	6,000.00
Sewer Loan 1923	7-1-1923	25	45,000.00	7-1-1948	4¼	1,000.00	85.00	2,000.00
Additional Sewer Loan 1925	11-1-1925	30	30,000.00	11-1-1955	4	1,000.00	360.00	9,000.00
Sewer Loan 1926	7-1-1926	30	50,000.00	7-1-1956	4	1,000.00	400.00	10,000.00
Total Sewer Loan—Inside Debt Limit			155,000.00			4,000.00	1,078.75	27,000.00
Total Inside Debt Limit			275,000.00			12,000.00	2,338.75	67,000.00

OUTSIDE DEBT LIMIT

WATER LOANS								
Water Filt. Imp. Loan 1936	12-1-1936	20	302,000.00	12-1-1956	2	15,000.00	3,000.00	150,000.00
Add. Water Filt. Imp. Loan 1937 ..	5-1-1937	20	130,000.00	5-1-1957	2½	7,000.00	1,587.50	67,000.00
Water Improvements Loan 1938	12-1-1938	20	49,000.00	12-1-1958	2¼	3,000.00	562.50	25,000.00
Lawrence Water Main Loan 1941	8-1-1941	15	15,000.00	8-1-1956	1¾	1,000.00	175.00	10,000.00
Law. Wat. Main Loan Issue of 1946 ..	10-1-1946	10	12,000.00	10-1-1956	1¼	2,000.00	150.00	12,000.00
Total Water Loan—Outside Debt Limit			508,000.00			28,000.00	5,475.00	264,000.00
BRIDGE LOANS								
Falls Bridge Loan 1935	11-1-1935	20	75,000.00	11-1-1955	2½	4,000.00	775.00	31,000.00
Spicket River Bridges Loan 1935 ..	12-1-1935	20	22,000.00	12-1-1955	2¾	1,000.00	247.50	9,000.00
Highway Bridges Loan 1938	12-1-1938	20	198,000.00	12-1-1958	2¼	10,000.00	2,655.00	118,000.00
Duck Bridge Loan 1940	9-1-1940	20	26,000.00	9-1-1960	2	1,000.00	280.00	14,000.00
Total Bridge Loans—Outside Debt Limit			321,000.00			16,000.00	3,957.50	172,000.00
SEWER LOANS								
Lawrence Sewer Loan 1923	5-1-1923	30	250,000.00	5-1-1953	4	8,000.00	2,080.00	56,000.00
BUILDING LOANS								
Inf. & Heating Plant Loan 1934	9-1-1934	20	99,000.00	9-1-1954	3½	5,000.00	1,365.00	39,000.00
City Home Imp. Loan 1935	11-1-1935	20	82,000.00	11-1-1955	2½	4,000.00	900.00	36,000.00
City Home Dorm. Bldg. Loan 1935 ..	12-1-1935	20	67,000.00	12-1-1955	2¾	3,000.00	742.50	27,000.00
So. B. Fire Eng. House Loan 1935 ..	12-1-1935	20	36,000.00	12-1-1955	2¾	2,000.00	385.00	14,000.00
Fire Al'm Sig. Sys. Bldg. L. 1936 ..	7-1-1936	20	65,000.00	7-1-1956	2½	3,000.00	750.00	30,000.00
Add'l City Home Imp. Loan 1936 ..	7-1-1936	20	20,000.00	7-1-1956	2½	1,000.00	250.00	10,000.00
Mun. Swim. Pools Loan 1936	11-1-1936	20	67,000.00	11-1-1956	2½	3,000.00	750.00	30,000.00
Total Building Loans—Outside Debt Limit			436,000.00			21,000.00	5,142.50	186,000.00
PLAYGROUND LOANS								
Playground Loans 1925	11-1-1925	29	200,000.00	11-1-1954	4	7,000.00	2,120.00	53,000.00
WELFARE and RELIEF LOANS								
Law. Mun. Rel'f L., Acts of 1937	12-1-1937	10	70,000.00	12-1-1947	2¼	7,000.00	157.50	7,000.00
Law. Mun. Rel'f L., Acts of 1938	4-1-1938	10	100,000.00	4-1-1948	2	10,000.00	300.00	20,000.00
2nd Mun. Rel'f L., Acts of 1938	8-1-1938	10	250,000.00	8-1-1948	2	25,000.00	1,000.00	50,000.00
1st Mun. Rel'f L., Acts of 1939	6-1-1939	10	150,000.00	6-1-1949	1¼	15,000.00	468.75	45,000.00
2nd Mun. Rel'f L., Acts of 1939	4-1-1940	10	250,000.00	4-1-1950	1¼	25,000.00	1,093.75	100,000.00
3rd Mun. Rel'f L., Acts of 1939	7-1-1940	10	100,000.00	7-1-1950	1½	10,000.00	600.00	40,000.00
1st Is. Law. M. R. L., Acts of 1941 ..	7-1-1941	10	250,000.00	7-1-1951	1¼	25,000.00	1,562.50	125,000.00
2'd Is. Law. M. R. L., Acts of 1941 ..	7-1-1942	10	200,000.00	7-1-1952	1¼	20,000.00	1,500.00	120,000.00
Tot. Welf. and Rel. Loans			1,370,000.00			137,000.00	6,682.50	507,000.00
OTHER LOANS								
Law. Defense Loan, Acts of 1942	7-1-1942		25,000.00	7-1-1947	1¼	5,000.00	62.50	5,000.00
1st Vet. Hous. Loan, Acts of 1946 ..	10-1-1946		33,000.00	10-1-1956	1¼	4,000.00	412.50	33,000.00
Total Other Loans			58,000.00			9,000.00	475.00	38,000.00
Total—Outside Debt Limit			3,143,000.00			226,000.00	25,932.50	1,276,000.00
Total—Inside Debt Limit			275,000.00			12,000.00	2,338.75	67,000.00
			3,418,000.00			238,000.00	28,271.25	1,343,000.00

APPENDIX (F)

TAX RATE AND VALUATIONS

Year	Tax Rate	Total Valuations
1930	\$27.60	\$124,447,000
1931	30.40	119,270,000
1932	36.80	109,092,000
1933	35.60	99,742,000
1934	39.60	98,394,000
1935	37.60	98,789,000
1936	37.60	98,010,000
1937	36.80	89,285,000
1938	39.60	88,820,000
1939	38.80	88,119,000
1940	40.80	85,266,000
1941	39.80	83,718,000
1942	39.80	84,233,000
1943	37.80	84,090,000
1944	37.80	84,053,000
1945	35.80	83,834,000
1946	38.80	84,382,000

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