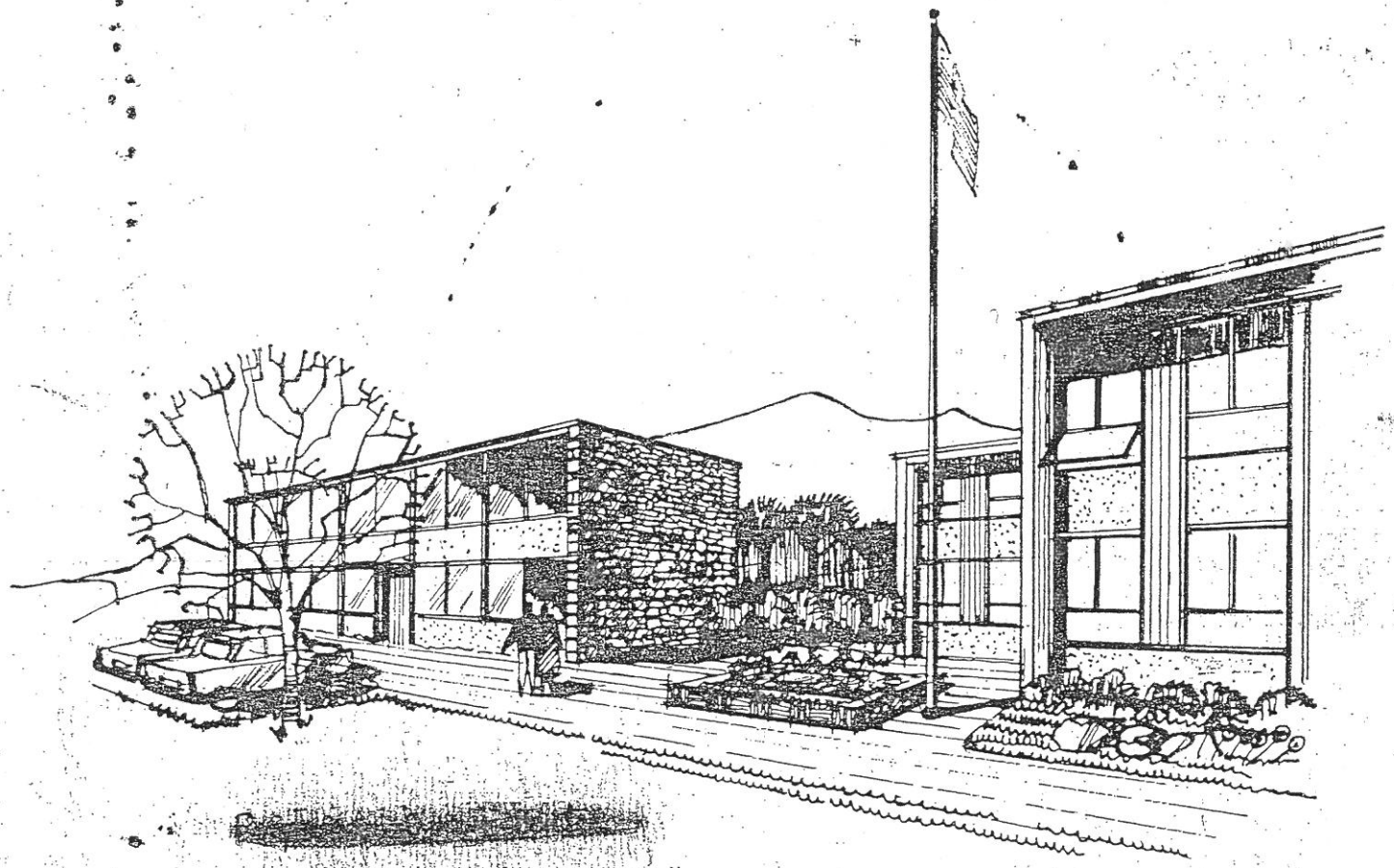


# MASTER PLAN



K I N N E L O N  
M O R R I S C O U N T Y , N E W J E R S E Y

MASTER PLAN

BOROUGH OF KINNELON, NEW JERSEY

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For the:

Borough of Kinnelon, New Jersey

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## TABLE OF CONTENTS

	Page
INTRODUCTION	i
SUMMARY OF MASTER PLAN RECOMMENDATIONS	iii
LAND USE	1
PHYSICAL CHARACTERISTICS	6
POPULATION TRENDS	9
HOUSING ANALYSIS	15
ECONOMIC ANALYSIS	18
TRAFFIC ANALYSIS AND PLAN	22
LAND USE PLAN	36
PARKS AND PLAYGROUNDS PLAN	46
PUBLIC SCHOOLS PLAN	54
PUBLIC BUILDINGS PLAN	62
UTILITIES ANALYSIS	66
FINANCIAL ANALYSIS AND CAPITAL IMPROVEMENTS PROGRAM	70
REGULATORY CONTROLS	86
ADOPTION OF MASTER PLAN	103

## LIST OF TABLES

		Page
I	Land Use, Kinnelon Borough, New Jersey, 1958	2
II	Land Suitable for Development by Zoning District, Kinnelon Borough, 1958	7
III	Physical Character of Undeveloped Land, Kinnelon Borough, 1958	8
IV	Permanent Population of Borough of Kinnelon, 1930 - 1958	10
V	Population Changes by Age and Sex, Kinnelon Borough, 1950 - 1958	12
VI	Zoned Residential Development Capacity of Vacant Land Suitable for Development, Kinnelon Borough, 1958	13
VII	Building Permits Issued for New Dwellings, Kinnelon Borough, New Jersey	15
VIII	Employment Location of Family Head, Kinnelon Borough, 1958	18
IX	Occupation of Head of Household, Kinnelon Borough, 1958	19
X	Assessed Value of Real Properties Categorized According to Use, Kinnelon Borough, 1958	20
XI	Shopping Habits of Resident Population, Kinnelon Borough, 1958	21
XII	Proposed Land Use, Kinnelon Borough	38

Traffic Plan. A plan for the improvement of traffic circulation within the Borough related to regional as well as local needs.

Community Facilities Plan. A plan which analyzes the adequacy of existing schools, parks, playgrounds, and public buildings and recommends a program for their improvement and expansion in the future.

In addition to the above elements, the Master Plan contains a program for its effectuation through:

The Capital Improvements Program. The various proposals for public improvements are itemized and given a relative priority rating. The cost of each of these proposals is estimated and a definite long-range program is established in accordance with the financial ability of the Borough to pay for them.

Regulatory Controls. Recommendations are made with respect to the adequacy and changes required in the zoning ordinance and map, subdivision regulations and other controls dealing with urban development.

## SUMMARY OF MASTER PLAN RECOMMENDATIONS

The major recommendations included in the various elements of the Master Plan are as follows:

### TRAFFIC PLAN

#### Major Streets

1. Increase over-all right-of-way of Kiel Avenue to 75 feet and realign sections of the roadway to improve traffic circulation and traffic safety.
2. Increase over-all right-of-way of Boonton Avenue to 66 feet and realign sections of the roadway to improve traffic circulation and traffic safety.

#### Secondary Streets

1. Widen right-of-way of Fayson Lakes Road to 60 feet and establish right-angle intersections where Fayson Lakes Road meets Kiel Avenue and Boonton Avenue.
2. Widen the right-of-way of Kakeout Road to 60 feet and construct a new road as a continuation of Kakeout Road to form an improved northern connection between Kiel Avenue and Boonton Avenue.
3. Improve the over-all condition of New Brook Valley Road in cooperation with surrounding municipalities.
4. Extend Ricker Road into Smoke Rise or construct a new road in the immediate vicinity of Ricker Road to connect Kiel Avenue with Smoke Rise Road.
5. Realign Stone House Road to improve traffic circulation and traffic safety and increase the roadway's right-of-way to 60 feet.

### Local Streets

Connect Pettridge Tree Lane in northern Smoke Rise with State Highway 23.

## LAND USE PLAN

### Residential Land Use Plan

1. Continue 1-acre residential zoning in the Fayson Lakes area formerly defined as the B-2 residential zone.
2. Establish a 1.5-acre (average lot size) residential zone throughout the remaining residential districts in the Borough.

### Commercial Land Use Plan

1. Develop a community shopping center south of Fayson Lakes Road at the intersection of Kiel Avenue and Fayson Lakes Road on a site of approximately 16 acres.
2. Develop a neighborhood shopping center along the westerly side of Boonton Avenue south of Fire Station No. 2 on a site of about 6 acres.
3. Denote the existing commercial area along State Highway 23 as a highway commercial zone subject to specific controls to safeguard against hazardous traffic conditions.

### Industrial Land Use Plan

1. Establish a "Planned Industrial Park District" in Kinnelon subject to specific controls.
2. Create a planned industrial park area with adequate buffers on a site along Kakeout Road abutting the new Meadetown Shopping Center; and on a site between Maple Lake Road, Kiel Avenue and the municipal boundary. Through negotiation with the Borough of Butler the development of the area could possibly be extended to State Highway 23.

## COMMUNITY FACILITIES PLAN

### Public Schools Plan

1. Construction of a new secondary school to be located along Kiel Avenue in the vicinity of the present Kiel Avenue elementary school.
2. Expand the existing Kiel Avenue elementary school.
3. Construction of a new elementary school in the western part of the Borough.

### Parks and Playgrounds Plan

1. Develop a 5 to 10-acre playground in conjunction with the proposed new elementary school.
2. Improve and enlarge the Kiel Avenue School playground.
3. Expand the Stonybrook School site in order to provide for a wider range of recreational facilities.
4. Develop a 30 to 40-acre playfield in conjunction with the construction of the new secondary school.
5. Acquire approximately 15 acres within the proposed Borough Center for park purposes including swimming.
6. Investigate the possibility of developing a county park in the southeastern part of the Borough.
7. Determine the feasibility of promoting multi-purpose use of watershed land for recreation.

### Public Buildings Plan

1. Locate a Borough Civic Center at the intersection of Stone House Road and Kiel Avenue on a site of approximately 10 acres. A new municipal building, library and post office should be considered for inclusion on this site.
2. Establish an ambulance unit in Kinnelon.

### Utilities Plan

1. Conduct an engineering study to locate a possible source of water supply for a municipal distribution system. This study should also include plans for installing a water distribution system in Kinnelon.
2. Conduct an engineering study to formulate plans for the installation of trunk and interceptor storm sewers.

## REGULATORY CONTROLS

### Zoning

1. Revise the zoning map and ordinance to carry out the Land Use Plan proposals.
2. Require that all industrial development be subject to control by performance standards relating to noise, smoke, glare, odors, etc.

### Official Map

Adopt an Official Map showing proposed width of streets, drainage rights-of-way and location of parks and playgrounds.

### Other Codes and Ordinances

1. Adopt a standard plumbing code such as the "Plumbing Code of New Jersey".
2. Adopt, by reference, the National Electrical Code.
3. Adopt the National Fire Prevention Code.
4. Adopt an all-inclusive soil removal ordinance.
5. Adopt a housing code to enforce minimum standards of conditions and facilities in existing housing.



## CAPITAL IMPROVEMENTS PROGRAM

1. Adopt a six-year capital improvements program to provide a guide for carrying out public improvements proposed in the plan.
2. Review the six-year capital improvements program each year based on the Borough's needs and financial ability.

The total developed area, including all established streets is 2,239.2 acres, or about 18.6 per cent of the land area of the Borough. The remaining 9,823.7 acres includes undeveloped vacant land and land presently used for agricultural and general recreational purposes.

Land Use Findings

The use of land in Kinnelon is summarized in the following table.

Table I

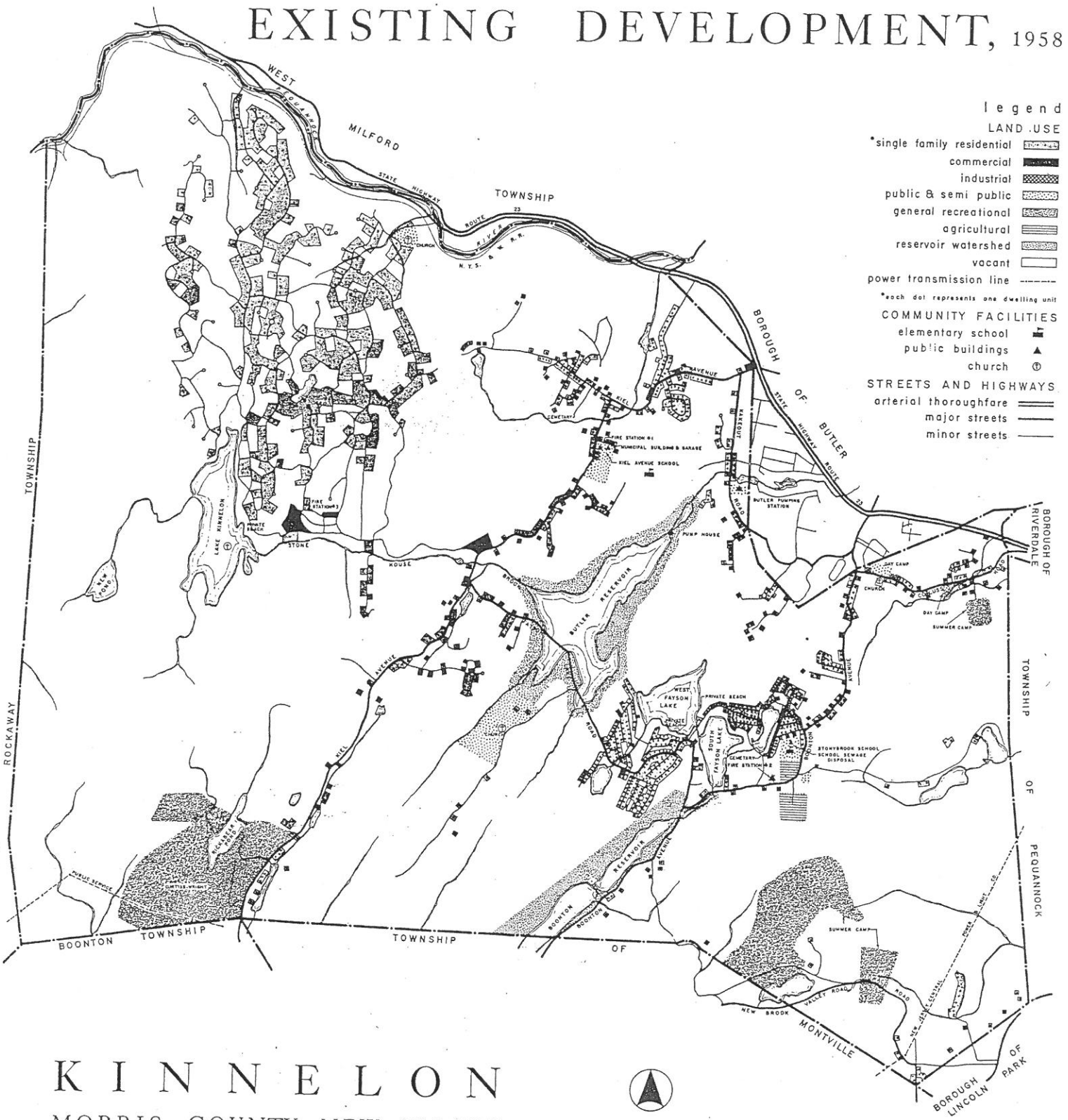
LAND USE, KINNELON BOROUGH, NEW JERSEY, 1958

<u>Land Use Category</u>	<u>Area in Acres</u>	<u>Per Cent of Total Land Area</u>	<u>Per Cent of Total Developed Land Area</u>
Residential	854.6	7.1	38.2
Commercial	30.2	0.3	1.3
Industrial	2.6	0.1	0.1
Agricultural	52.9	0.4	-
Public and Semi-Public	125.4	1.0	5.6
General Recreational	624.6	5.2	-
Public Watersheds*	823.0	6.8	36.8
Railroad and Public Utilities	64.6	0.5	2.9
Streets	338.8	2.8	15.1
Rivers, Lakes, Ponds, Reservoirs	545.1	-	-
Vacant Land	<u>9,146.2</u>	<u>75.8</u>	<u>-</u>
Gross Area	12,608.0	100.0	100.0
Gross Area			12,608.0 Acres
Total Land Area			12,062.9 Acres
Developed Land Area			<u>2,239.2 Acres</u>

\*Does not include Water.

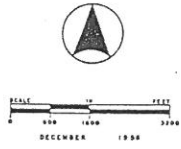
Source: Land Use Survey.

# EXISTING DEVELOPMENT, 1958



- Legend**
- LAND USE**
- \*single family residential [stippled pattern]
  - commercial [horizontal lines]
  - industrial [diagonal lines /]
  - public & semi public [diagonal lines \]
  - general recreational [cross-hatch pattern]
  - agricultural [horizontal lines]
  - reservoir watershed [stippled pattern]
  - vacant [white]
  - power transmission line [dashed line]
- \*each dot represents one dwelling unit
- COMMUNITY FACILITIES**
- elementary school [house icon]
  - public buildings [triangle icon]
  - church [circle icon]
- STREETS AND HIGHWAYS**
- arterial thoroughfare [thick solid line]
  - major streets [medium solid line]
  - minor streets [thin solid line]

**K I N N E L O N**  
 MORRIS COUNTY, NEW JERSEY  
 KINNELOON PLANNING BOARD  
 I. CANDEUB & ASSOCIATES CONSULTANTS



THE PREPARATION OF THIS MAP WAS FOLLOWS IN PART THROUGH AN URBAN PLANNING GRANT FROM THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, UNDER THE PROVISIONS OF SECTION 101 OF THE HOUSING ACT OF 1954, AS AMENDED.

### Residential Land Use

Residential uses occupy 854.6 acres, or 7.1 per cent of the land area in the Borough. Of the developed land area, 38.2 per cent is devoted to residential uses. Land acreage in residential use includes only lots which have been built upon.

It is estimated that approximately 6.5 percent or 55.4 acres of the land in residential use is occupied by seasonal dwellings. About 93 per cent of these seasonal dwellings are located in Fayson Lakes.

### Commercial Use

The land area devoted to retail and commercial uses totals 30.2 acres. This represents 1.3 per cent of the developed land area.

Commercial development is generally scattered throughout the Borough. A count of establishments reveals 15 units of which one is vacant and another is used only part time. The commercial uses found in Kinnelon generally include food stores, gas stations and restaurants and bars.

### Industrial Use

The present zoning ordinance does not provide for an industrial zone. Therefore, industry has not been permitted in Kinnelon since the adoption of the ordinance. One industry, a machine company occupying 2.6 acres along Cotluss Road, now exists as a non-conforming use.

### Agricultural Uses

The use of land for farming and live stock has greatly decreased in Kinnelon over the past years. Today only two poultry farms are still active. These are located along Boonton Avenue, and comprise a total area of 52.9 acres or 0.4 per cent of the Borough's total land area. Land which at one time was used for farming but is not presently farmed is considered for the purposes of this survey to be vacant land.

### Public and Semi-Public Uses

Public buildings, schools, and semi-public buildings such as churches and parsonages occupy 125.4 acres or 5.6 per cent of the developed land area. Church property accounts for approximately 62.2 per cent of this total. The Roman Catholic Diocese of Paterson owns 70 acres of land along Miller Road of which only a small section is developed. The remaining church acreage is divided between two other churches.

School property totals 39.0 acres or 31.1 per cent of the land used for public and semi-public purposes.

### General Recreational Uses

There are 5 areas in Kinnelon totaling 624.6 acres that are used seasonally by private groups for recreation. Four of these areas are summer camps for children. The fifth area, owned by the Curtis Wright Corporation, is a private park occupying 313.0 acres.

General recreational uses account for 5.2 per cent of the Borough's total land area.

### Public Watersheds

A land area totaling 823.0 acres or 36.8 per cent of Kinnelon's developed land area is devoted to watershed property in Kinnelon. This does not include the water areas within the watershed. The two major watersheds, the Boonton Reservoir and the Butler Reservoir, located in the central and south central portion of the Borough account for approximately 78 per cent of the total watershed area.

### Railroad and Public Utility Uses

The right-of-way for the New York Susquehanna and Western Railroad runs through Kinnelon along its northern boundary. The part of this right-of-way that lies within the Borough constitutes 45.3 acres. Utility power cuts occupy an additional 19.3 acres. Together the two uses total 64.6 acres or 2.9 per cent of the developed land area.

## PHYSICAL CHARACTERISTICS

### Topography

Kinnelon is located in what is known as the northern highlands of New Jersey. The Borough's land is characterized by high, rough and rocky hills which are extensively wooded. Masses of hard bedrock protrude with frequency and rock fragments, many of boulder size fill the soil. There are a limited number of marshes located in the broader valleys of the Borough.

The irregular topography of Kinnelon is one of the Borough's most valuable assets. The numerous lakes and reservoirs which dot the landscape and the panoramic views provided by hillside sites have encouraged a very high quality type of residential development. The large scale housing developer has been discouraged in Kinnelon because of the difficulties encountered in constructing roads and because of the relatively large lot sizes now required throughout the Borough.

The map following this page shows the topography of Kinnelon by 20 foot contour intervals and indicates major swampy areas. Also shown on this map are areas where hillside slopes exceed 20 per cent. Land with a slope in excess of 20 per cent is generally not suitable for urban type development. Under certain conditions, however, where land costs are high and where a view is desired excessively steep land is being developed. This has occurred to a limited extent in the Smoke Rise area. For the purpose of this study, lands with slopes of over 20 per cent are not considered as developable.

### Developable Land Area

As previously noted in the land use study, Kinnelon has a total land area of 12,063 acres. Approximately 2,239 acres have been developed and the remaining 9,824 acres, which includes vacant land, agricultural land and general recreational land, are considered suitable for further development. Of the undeveloped area only about 6,589 acres, consisting of land with slopes of 0 - 20 per cent, are suitable for general urban development. About 32 per cent or 3,140 acres of the Borough's undeveloped land area have a slope of greater than 20 per cent and approximately 95 acres are located in swamps.

The Jersey Central Power and Light Company is presently negotiating rights-of-way for a new power line. Data concerning this new cut is not yet available.

#### Streets

Streets occupy 338.8 acres or 15.1 per cent of the developed land area.

#### Rivers, Lakes, Ponds and Reservoirs

Water bodies cover 545.1 acres. Included in the total figure are reservoirs which occupy 227.0 acres or 41.6 per cent of the water area in Kinnelon.

#### Vacant Land

There are approximately 9,146 acres of vacant land remaining in Kinnelon. This represents 75.8 per cent of the total land area in the Borough.

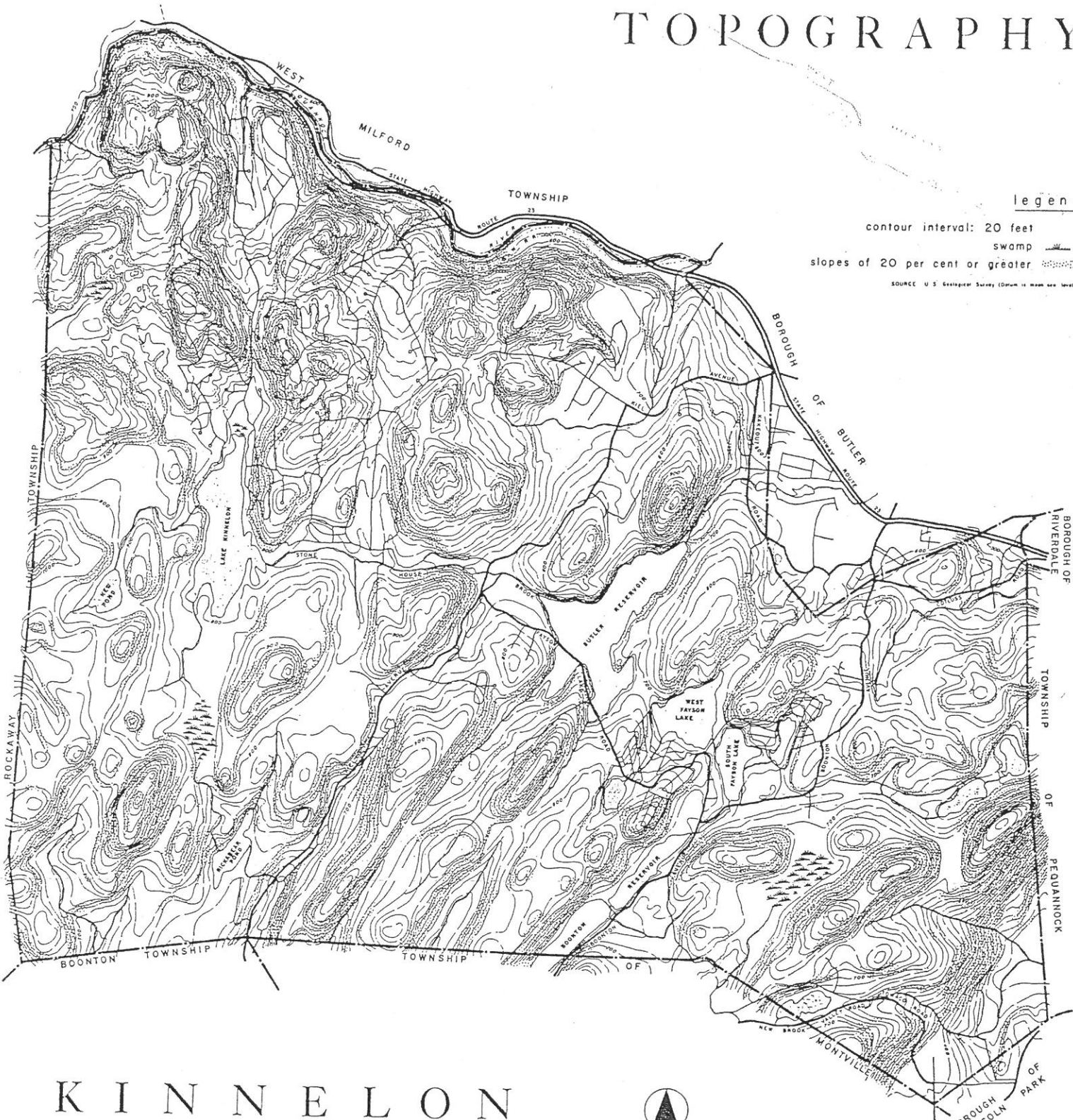
It should be noted that not all of this land is suitable for development because of such conditions as excessively steep slopes (20 per cent or greater), rock outcroppings and swamps. The following section of this report presents a discussion of the amount of vacant land which is suitable for development.

#### Land Use Conclusions

Approximately 18.6 per cent of Kinnelon's total land area is developed. The remaining undeveloped land including vacant land, agricultural land and general recreational land totals 9,823.7 acres. Vacant land alone constitutes 9,146.2 acres. The manner in which this vacant land is used and zoned will largely determine the future character of the community.



# TOPOGRAPHY



### Legend

- contour interval: 20 feet
- swamp
- slopes of 20 per cent or greater

SOURCE: U.S. Geological Survey (Datum is mean sea level)

## KINNELON

MORRIS COUNTY, NEW JERSEY

KINNELON PLANNING BOARD

I. CANDEUR & ASSOCIATES CONSULTANTS



DECEMBER 1958

THE PREPARATION OF THIS MAP WAS FINANCED IN PART THROUGH AN AID FROM THE STATE OF NEW JERSEY AND THE FEDERAL GOVERNMENT UNDER THE PROVISIONS OF SECTION 101 OF THE PLANNING ACT OF 1954 AS AMENDED.



Table II provides a breakdown of developable land areas by existing zoning districts. In the A-1 district, which requires minimum lot areas of one acre, it was found that only 66.7 per cent of the undeveloped land is suitable for development largely because of excessive slopes.

Table III shows a breakdown of the physical character of undeveloped areas by slope range.

Areas with slopes ranging from 10 to 20 per cent will have limited usefulness for many types of urban land use. When slopes begin to exceed 10 per cent, development becomes increasingly more difficult and expensive. Small lot development for residential purposes is undesirable on such land due to the problems of constructing streets and driveways with excessive slopes. The typical industrial or commercial structure is also not adaptable to slopes exceeding 10 per cent because of the trend toward one story buildings with ample off-street parking areas. It is estimated that 2,628 acres or approximately 26.7 per cent of Kinnelon's undeveloped land has slopes ranging from 10 to 20 per cent.

Only about 3,960 acres or 40.3 per cent of the undeveloped area of the Borough has slopes ranging from 0 to 10 per cent. This land is generally suited to most types of urban development. It should be noted, however, that for the most part land with 0 to 10 per cent slopes is contained in relatively small areas scattered throughout the Borough.

Table II

LAND SUITABLE FOR DEVELOPMENT BY ZONING DISTRICT  
KINNELON BOROUGH, 1958  
(Area in Acres)

Zoning District	Undeveloped Land	Undeveloped Land Not Suitable For Development*	Undeveloped Land Suitable for Development	Per Cent of Undeveloped Land Suitable For Develop.
Res. A-1	9,650.0	3,209.0	6,441.0	66.7
Business	173.7	25.5	148.2	85.3
TOTAL	9,823.7	3,234.5	6,589.2	67.1

\*Land with slopes of 20 per cent or more and low, wet areas.

Table III

PHYSICAL CHARACTER OF UNDEVELOPED LAND  
 KINNELON BOROUGH, 1958  
 (Area in Acres)

Zoning District	Slope Range			Marsh Land
	0-10%	10-20%	Over 20%	
Residence A-1	3,920.4	2,520.6	3,114.4	94.6
Business	40.1	108.1	25.5	-
TOTAL	3,960.5	2,628.7	3,139.9	94.6

## POPULATION TRENDS

### Early Growth

Early settlements in the Kinnelon area date back to the late 17th century. Mining and forest cropping were major occupations of the first settlers. The building of the Morris Canal in the 1820's, however, virtually wiped out the mining industry in Pequannock Township, which at that time included what was later to be called Kinnelon. After many unsuccessful attempts to restore the mining industry in the area, the land was put up for sale. In 1883 Francis S. Kinney purchased what is now a major portion of the Borough. The name Kinnelon originated at that time.

After the First World War some residential development occurred. But Kinnelon was still a rural area and by 1922 when the Borough was incorporated the population was less than 400 persons.

### Recent Growth and Present Population Size

The U.S. Bureau of the Census lists Kinnelon's 1930 population as 428. For each succeeding census year the population has almost doubled. The most striking population increase has taken place over the past eight years. In 1950 the population was 1,350. This figure excludes seasonal residents. The local population survey conducted in the summer of 1958 revealed approximately 3,832 residents and a seasonal population of 348. This represents a 184 per cent increase in the year-round residential population. It is estimated that the State and County increase for this same period was 18.6 per cent and 49.7 per cent respectively. Kinnelon greatly exceeded both. The increase in Kinnelon's population reflects a substantial in-migration to Kinnelon.

A record of the issuance of building permits before 1952 is not available. From 1952 through December 1958, however, permits for the construction of 652 new dwelling units were issued. One further indication of in-migration was revealed in the 1958 local population survey. Of the 1,054 families reporting, 577 or 54.7 per cent resided in the Borough for 5 years or less.

Table IV

PERMANENT POPULATION OF THE  
BOROUGH OF KINNELON, 1930-1958

<u>Year</u>	<u>Population</u>	<u>Change Over Previous Census</u>	
		<u>Absolute</u>	<u>Per Cent</u>
1930	428		8
1940	745	317	74.1
1950	1,350	605	81.2
1958	3,832	2,482	183.9

Source: 1930-1950, U.S. Census of Population  
1958, Local Population Survey.

Population Distribution and Density

The Existing Development Map shows the distribution of dwelling units in Kinnelon. Development in the past was shaped and guided by the physical character of the Borough. This governing factor will also determine future development concentrations.

Major concentrations of residential development exist around Fayson Lakes, in Smoke Rise and along the Borough's major roads.

The net residential density for the entire Borough, including only the land used for residential purposes, is approximately 4.9 persons per acre.

The highest density area in Kinnelon is the Fayson Lakes development.

Population Characteristics

The local population survey conducted in 1958 revealed the following characteristics:

1. Resident Population. There are 3,832 year-round residents and 348 seasonal residents.

2. Sex Ratio - Permanent Residents. The sex ratio for permanent residents is 108 males for every 100 females.

3. Age Composition - Permanent Residents. This information is significant because of its influence upon the types and scope of community facilities to be furnished by the Borough.

- a. Between 1950 and 1958 the number of children 5 years of age and under increased from 170 to 438 -- an increase of 268. This was a percentage change of 157.6 per cent.
- b. The 5 - 14 year age group increased from 199 to 879 between 1950 and 1958 -- an increase of 680. This represents a striking increase of 341.7 per cent.
- c. The 15 - 24 year age group increased from 137 to 409 -- an increase of 272 or 198.5 per cent.
- d. The 102.4 per cent increase in the 25 - 34 age group reflects a large influx of young families into the Borough. During this eight-year period Kinnelon witnessed a numerical increase of 252 persons in this group.
- e. The remaining age groups all experienced increases between 1950 and 1958.

#### Average Household Size

The average household size of a community is derived by dividing the total permanent population by the total number of permanent occupied households.

In 1950 the average household size of Kinnelon was 3.3. The current 1958 population survey and dwelling unit count indicates that the average household size is now 3.7.

Table V

POPULATION CHANGES BY AGE AND SEX  
KINNELON BOROUGH, 1950 - 1958

Age	Male Population		Per Cent of Total	
	1950	1958	1950	1958
Under 5	98	247	13.8	12.4
5 - 14	121	474	17.0	23.8
15 - 24	67	227	9.4	11.4
25 - 34	111	220	15.6	11.1
35 - 44	134	331	18.9	16.6
45 - 54	92	299	12.9	15.1
55 - 64	49	117	6.9	5.9
65 and over	39	74	5.5	3.7
TOTAL	711	1,989	100.0	100.0

	Female Population			
	1950	1958		
Under 5	72	191	11.3	10.3
5 - 14	78	405	12.2	22.0
15 - 24	70	182	11.0	9.9
25 - 34	135	278	21.1	15.1
35 - 44	131	357	20.5	19.4
45 - 54	79	243	12.4	13.2
55 - 64	45	112	7.0	6.1
65 and over	29	75	4.5	4.0
TOTAL	639	1,843	100.0	100.0

	Total Population			
	1950	1958		
Under 5	170	438	12.6	11.4
5 - 14	199	879	14.7	22.9
15 - 24	137	409	10.2	10.7
25 - 34	246	498	18.2	13.0
35 - 44	265	688	19.6	18.0
45 - 54	171	542	12.7	14.1
55 - 64	94	229	7.0	6.0
65 and over	68	149	5.0	3.9
TOTAL	1,350	3,832	100.0	100.0

Source: 1950, U. S. Census Bureau  
1958, Local Population Survey.

A number of factors affect average household size including marriage rates, birth rates, and the age distribution of the population. One of the most important factors in Kinnelon is the high proportion of married couples below 45.

The trend for Kinnelon is counter to the national course. In 1950 the national average household size was 3.5 and in 1955 it was 3.3. Projections prepared by the U.S. Census Bureau indicate a further decline to a point between 3.1 and 3.2 by 1975.

Population Potential Under Present Zoning

The ultimate potential population increase in any community is determined by the densities permitted by zoning. Since Kinnelon is on the fringe of the New York metropolitan area, it is impossible to forecast what the population may be at any given year in the future. Much depends on the plans of developers to build in one area as opposed to another during any given period. At present, Kinnelon Borough has approximately 9,650 acres of undeveloped land zoned for residential use. Marginal land in the residential zones constitutes 3,209.0 acres, leaving 6,441.0 acres suitable for development.

Table VI

ZONED RESIDENTIAL DEVELOPMENT CAPACITY OF VACANT LAND SUITABLE FOR DEVELOPMENT, KINNELON BOROUGH, 1958

Zoning District	Minimum Lot Size		Land Suitable for Development in Acres	Net Residential land in Acres*	Potential Lots	
	Square Feet	Acres			No.	Per Cent
A1	43,560	1.0	6,441.0	5,474.8	5,474	100.0

\*Developable land less 15 per cent for streets and community facilities equals the net residential land.



Under existing zoning regulations the vacant land suitable for residential use could accommodate about 5,474 additional dwelling units, if it is developed in accordance with the minimum lot size requirement. This figure is based upon the net residential land suitable for development. As shown in Table VI, 6,441.0 acres of land are suitable for development in the residential zone. It is estimated that approximately 966.2 acres of this land will be necessary for new street and other public and semi-public uses. The estimated potential net residential land, therefore, totals 5,474.8 acres.

Full development of the 5,474 dwelling units possible under present zoning would allow an ultimate population of about 23,000 persons. This estimate assumes that the average family size in Kinnelon will tend to level off around 3.5 persons and that there will be some conversion of summer residence to year-round occupancy.

#### Future Population Trends

Kinnelon lies directly in the path of the tidal wave of metropolitan expansion. By 1975 the Regional Plan Association estimates that the New York metropolitan area will reach a population of 19 million people -- an increase of 4 million over the 15 million living in the region in 1955.

The search for open land areas, good schools, larger houses and a decreasing amount of developable land closer to New York will continue to encourage families to move into the eastern section of Morris County. It is estimated that Hudson, Essex, Bergen and Passaic Counties have a combined area of about 200 square miles which are suitable for development. Morris County alone, however, has approximately 280 square miles of developable land.

Kinnelon's growth, therefore, has and will be influenced in the future by regional forces which are encouraging an urban sprawl over northern New Jersey. During the next twenty years it is anticipated that the population of Morris County will increase at a rate of about 10,000 persons per year and reach 450,000 by 1980.

Kinnelon's topography, location with respect to existing and proposed highways and the growing lack of good residential land to the east indicate that Kinnelon will continue to grow at a fairly rapid rate. By 1980, therefore, it is anticipated that Kinnelon will be a community of between 9,000 and 11,000 persons.



## HOUSING ANALYSIS

### Dwelling Units

The local population survey revealed that on October 1, 1958, Kinnelon had 1,023 occupied year-round dwelling units and 94 seasonal dwellings. The average household size for the year-round dwelling units was 3.3 in 1950 and 3.7 in 1958.

### Building Permits for Housing

Table VII summarizes the issuance of building permits for new dwellings from 1952 through 1958. (Records were not kept prior to 1952).

Table VII

#### BUILDING PERMITS ISSUED FOR NEW DWELLINGS KINNELON BOROUGH, NEW JERSEY

<u>Year</u>	<u>New Dwelling Permits</u>
1952	47
1953	64
1954	113
1955	112
1956	136
1957	97
1958	81

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Source: Building Inspector

New housing construction increased to a peak of 136 in 1956, but declined to a level of 81 in 1958. It is anticipated that during the next twenty years an average of between 90 and 100 new homes per year will be constructed in Kinnelon.

### Cost of New Dwellings

Building permit application for all new dwellings in the Borough indicate the estimated construction cost. In 1952 these estimated costs ranged between \$5,000 and \$31,000 and averaged \$14,600. By 1957 the average construction cost had increased to \$23,000 and the range of costs ran from \$6,500 to \$62,000.

It should be noted that the estimated construction costs do not include land costs and profits to the builder. The sale price of new housing in Kinnelon has, however, increased in recent years. It is estimated that the average new home being constructed in Kinnelon at present will sell for about \$31,000. It can be anticipated that new housing construction in Kinnelon will continue to have a high average value -- probably in the \$30,000 to \$35,000 price range. Of considerable importance is the fact that Kinnelon has become known as a prestige location.

The Borough should strive to maintain this reputation because of the limited area which is suitable for tax producing non-residential development. Many communities such as Maplewood, Mountain Lakes, Glen Ridge and Essex Fells have been able to provide adequate municipal services with a predominantly residential tax base. These communities have been able to do this, however, because the homes which have been constructed are of high value and the residents thereof have been able to support a high level of service.

Kinnelon must be constantly alert to the fact that any lessening of zoning or subdivision standards to permit lower cost housing will adversely affect the standard of municipal services which can be provided. The impact of the tightening of standards, however, will be to facilitate higher service levels, the cost of which can be more equitably distributed amongst home owners.

### Housing and Neighborhood Conditions

A primary concern of any master plan is the elimination of blight and the prevention of blight in all new construction. Kinnelon does not have any blighted areas at present but there are a few substandard structures scattered throughout the Borough.

Blighting conditions result either from the deterioration of structures, or of the neighborhood, or a combination of both. In an area such as Kinnelon structural deterioration can occur from concentrations of poor housing construction, inadequate conversions of seasonal dwelling units to year-round use and inadequate maintenance of older structures. Neighborhood or environmental blight occurs where lot sizes are inadequate, where there are mixtures of commercial and residential use and where excessive traffic flows along a residential street, where utilities are inadequate, where streets are poorly paved, where community facilities such as playgrounds are deficient and where there is excessive air pollution or noise from nearby industry.

The various master plan proposals relating to land use, traffic, community facilities and regulatory controls are all directed at future development which will be free from blighting influences.

## ECONOMIC ANALYSIS

### Introduction

Kinnelon is a residential community with a limited amount of commercial development. There is only one small industrial establishment in the Borough and almost all of Kinnelon's labor force finds employment outside of the Borough in the surrounding region.

People generally have not moved to Kinnelon because of its employment opportunities but rather because it provides a desirable semi-rural type of living which is accessible in time and distance to their places of work.

### Employment Location

There is no doubt that Kinnelon can be classified as a community of commuters. The local population survey conducted in 1958 revealed that of the 958 heads of households reporting, 74.1 per cent found employment outside of Morris County. A relatively high number of these, 230 or 24 per cent commuted to New York City.

Table VIII

#### EMPLOYMENT LOCATION OF FAMILY HEAD KINNELON BOROUGH - 1958

<u>Location</u>	<u>Number</u>	<u>Percent of Total</u>
New York City	230	24.0
Morris County	248	25.9
Passaic County	162	16.9
Hudson County	40	4.2
Essex County	123	12.8
Other	155	16.2
TOTAL	958	100.0

Source: Local Population Survey, 1958

Occupation

According to the local population survey Kinnelon has 35.1 per cent of its heads of households engaged in managerial, official and proprietary activities. The professional group is the next highest occupation comprising 21.4 per cent. Craftsmen and foremen total 16.3 per cent.

Table IX

OCCUPATION OF HEAD OF HOUSEHOLD  
KINNELON BOROUGH - 1958

<u>Occupation</u>	<u>Number</u>	<u>Percent of Total</u>
Professional	213	21.4
Farmers and Farm Managers	6	0.6
Managers, Officials and Proprietors	350	35.1
Clerical and Kindred	20	2.0
Sales Workers	81	8.1
Craftsmen and Foremen	163	16.3
Operatives and Kindred	67	6.7
Service Workers	39	3.9
Retired	<u>59</u>	<u>5.9</u>
TOTAL	998	100.0

Source: Local Population Survey, 1958.

The high proportion of managers, professional and skilled people in the Borough signifies a very articulate citizenry. From a planning standpoint this indicates that a high level of educational and municipal services will be demanded by local residents.

Tax Base

A basic question raised by the anticipated increases in population is whether the Borough will be able to pay for the required expansion of municipal services without a large rise in the tax rate. The sources

of tax income by land use type and the regulations governing the future development of land have an important bearing on this problem. Table X provides a breakdown of the assessments by major land uses as compiled by the tax assessor.

Table X

ASSESSED VALUE OF REAL PROPERTIES CATEGORIZED  
ACCORDING TO USE, KINNELON BOROUGH - 1958

	<u>Assessment</u>	<u>Percent</u>
Residential	3,429,655	82.7
Commercial and Industrial	313,011	7.5
Farm	14,280	0.3
Railroad	1,534	0.1
Vacant	389,873	9.4
<b>TOTAL</b>	<b>4,148,353</b>	<b>100.0</b>

Source: Kinnelon Tax Assessor.

Residential properties now provide 82.7 per cent of tax revenues received from real estate in the Borough, while commercial and industrial uses provide only 7.5 per cent of real estate revenues.

The present assessment on vacant land constitutes 9.4 per cent of the total assessed value of real properties. Most of this vacant land is zoned for residential use. As more of this land is developed, residential uses will constitute an ever increasing percentage of the Borough's tax base.

Although there is no accepted rule-of-thumb, a tax balance is generally considered standard where from 20 to 30 per cent of property taxes are derived from non-residential uses. Kinnelon, because of its location and rough topography, could not be expected to reach such a balance. But it should encourage a more favorable picture, particularly by setting aside any suitable sites for better tax producing uses such as industry and retail development.

Commercial Development

The 1958 population survey contained questions relating to the shopping habits of Kinnelon's residents. Table XI summarizes the findings of this survey. Because of the lack of local shopping facilities - there are only three food stores - most of Kinnelon's families go out of town for purchases of groceries, clothing, household goods and practically all other types of retail items. The greatest percentage of local residents go to Butler for their food shopping. Shopping for clothing and household goods is concentrated in Butler or Paterson. It should be noted, however, that 71.1 per cent of clothing purchases and 75.6 per cent of household goods purchases are not made in Butler, Boonton or Paterson.

Table XI  
 SHOPPING HABITS OF RESIDENT POPULATION  
 KINNELON BOROUGH, 1958

Shopping Area	Households by Commodity (in percents)		
	Groceries	Clothing	Household Goods
Kinnelon	12.1	-	-
Butler	41.8	14.3	12.9
Boonton	3.6	1.3	0.8
Paterson	0.4	13.3	10.7
Other	42.1	71.1	75.6
TOTAL	100.0	100.0	100.0

Source: Local Population Survey

This condition is probably attributable to the large number of commuters and higher income families who because of convenience or special shopping requirements make major purchases in New York City, Newark or other major shopping areas.

It is significant, however, that over 40 per cent of the families in Kinnelon must go out of the immediate area to make food purchases. This condition points up the need for more adequate local convenience shopping facilities for items such as food, drugs, dry cleaning etc. Sales Management Magazine has estimated that average retail sales per capita in Morris County in 1957 were \$1,150. This would indicate that Kinnelon's present population could generate local retail sales of approximately \$4,000,000. It is estimated that local retail sales do not exceed \$400,000 at present. This indicates that provision must be made for additional shopping facilities in Kinnelon.

The advantages to Kinnelon will be greater convenience and an improvement in the tax base.



## TRAFFIC ANALYSIS AND PLAN

### Existing Street System

Kinnelon has 55.9 miles of streets. The administration and maintenance of this street system is shared by four jurisdictions -- State, County, Borough and private. Of the 55.9 miles, 1.5 miles are included in State Route 23; 7.4 miles are included in two County roads, Kiel Avenue and Boonton Avenue; 25.5 miles are maintained privately; and the remaining 21.4 miles are the responsibility of the Borough.

State Route 23 runs intermittently along Kinnelon's northern boundary. It is a major artery which connects northern New Jersey with Newark, Orange, Montclair, and New York via other connecting routes including Routes 46, 17 and 3. Driving time to New York City via Route 23 and connecting routes to the George Washington Bridge, Lincoln Tunnel and Holland Tunnel is approximately 45 minutes. The two County roads within Kinnelon -- Kiel Avenue and Boonton Avenue -- form the backbone of the Borough's street system. They are in fact Kinnelon's only major north-south roads which extend the full length of the Borough. Both roads connect with State Route 23 and then proceed in a southerly direction to Boonton. Kinnelon's private street mileage, which is exceptionally high, is predominantly concentrated in Smoke Rise, a private club development.

### Existing Traffic Volumes

Current available traffic counts were obtained from the New Jersey State Highway Department. These counts indicate the average daily traffic volumes on the Borough's more heavily travelled streets. The greatest traffic volume as expected is found on State Route 23. During 1956 at a point south of Kiel Avenue the average daily traffic flow was 10,800 vehicles. The orientation of this highway does not present any serious problems for Kinnelon since it does not carry traffic through the Borough. The only appreciable amount of traffic which travels through the heart of Kinnelon is found on the two County roads. Both these roads have average daily traffic volumes ranging from 1,200 to 2,000 vehicles -- the volumes increasing as the roads approach State





Route 23. This indicates that these two roads serve primarily as local access roads between points of development in the Borough and the State highway, rather than main channels of communication between surrounding municipalities.

Seasonal variation in traffic volumes is a significant factor in Kinnelon. During the summer months traffic volumes increase on Kiel and Boonton Avenues as well as local streets because of the summer recreational facilities in the Borough and in surrounding communities. The State Highway Department estimates that during the summer months there is an increase of from 7 to 10 per cent in the daily traffic flow on most through streets.

#### Adequacy of the Existing Street System

A number of variables determine the adequacy of Kinnelon's street system to serve their essential purpose of enabling vehicles and pedestrians to get from one place to another quickly and safely. Principal among these are:

1. Right-of-Way Width
2. Pavement Width
3. Street Construction
4. Street Grades
5. Street Alignment
6. Street Intersections

Each of these variables are discussed below:

1. Right-of-Way Width. The right-of-way width is a measure of the potential carrying capacity of a street and a limiting factor on pavement widening. The right-of-way is measured from property line to property line and includes sidewalks and planting strips in addition to pavements. At present there are no sidewalks in the Borough.

A right-of-way of 50 feet is generally considered to be the minimum desirable width where new streets are being constructed. Greater widths are necessary for streets which carry through traffic in addition to local traffic. The present Borough subdivision ordinance and

street specifications call for a right-of-way of 40 feet. This ordinance was adopted in 1956. Previous to the adoption of this ordinance the minimum right-of-way width was 33 feet.

Tax maps prepared for Pequannock Township in 1918, four years before Kinnelon's incorporation, show the existing street system at that time. Measurements for street rights-of-way are not recorded on these maps. Most streets in existence at that time, including those now in Kinnelon appear to have 50-foot rights-of-way -- measured according to the scale of the maps. To date, however, records are not available as to the actual rights-of-way of many of these original streets.

Data obtained from the County Engineer's office indicates that the right-of-way of Boonton Avenue varies from 49 feet to 66 feet. The right-of-way being 66 feet in the central section near Fayson Lakes Road and 49 feet along the two extreme sections. The right-of-way of Kiel Avenue is only partially known. The known right-of-way south of Fayson Lakes Road is 49 feet.

Because of the extreme importance of a street system with adequate over-all rights-of-way, it is recommended that the Borough determine the rights-of-way of its entire street system. This will be accomplished by the preparation of tax maps. Where rights-of-way are below prescribed standards they should be increased.

2. Pavement Widths. The pavement widths of Kinnelon's streets are not well defined because of the absence of curbs. The pavements of all major trafficked streets -- Kiel Avenue, Boonton Avenue, Fayson Lakes Road, Kakeout Road and Cotluss Road -- however, were measured and it was found that all of these roads have pavement widths of 20 feet or less, 18 feet being the over-all average. These narrow pavements seriously restrict traffic movement and create built-in hazards. Pavement widening is necessary to bring these roads up to accepted standards. There is no doubt that as the Borough and regional population increases the need for street improvements including pavement widening of major streets will become more pronounced. The present street specifications require a pavement width of 24 feet with 3-foot gravel shoulders on each side of the paved surface.

3. Street Construction. The Borough presently has 21.4 miles of accepted streets. In 1956, the New Jersey State Highway Department prepared a road mileage questionnaire which was sent to municipalities in the State. At that time approximately 50 per cent of Kinnelon's roads were classified as improved. Improved roads were defined in this questionnaire as "roads with constructed surfaces adequately drained and passable at all times of the year by modern motor vehicles". Since the time of this questionnaire 1.8 miles of improved roads have been accepted by the Borough.

All of the frequently traveled streets in the Borough are hard surfaced. Paved roads are for the most part in fair to good condition. A few roads, however, need either extensive repair or complete rebuilding. These roads include sections of Kiel Avenue and Boonton Avenue as well as numerous local streets in the Smoke Rise and Fayson Lakes developments.

Poorly paved and maintained streets are dangerous to both pedestrians and motorists alike. Any long-range plan for traffic improvement must include ample provision for street maintenance and repair, as well as widening and realignment.

4. Street Grades. Excessive street grades can become a limiting factor on the ability of a street to carry traffic. Kinnelon's rough and steep topography has caused a number of local streets to be constructed with excessive grades. Under unusual topographic conditions such as exist in Kinnelon, a maximum street grade of 15 per cent is acceptable, while not always desirable. Streets such as Sheep Rock Road, Dogwood and Westcrest Trails, Mountain Avenue, Ski Trail and East Meadow Road, to name only a few local access streets, have excessive grades. Rules and regulations governing street construction should take into account the fundamental needs and the protection of the lot owner and the public. Under special conditions standards should not be so rigid as to be unreasonable and demand more than is basically required. Provision for flexibility in unusual cases is essential where the public interest is concerned.

The Borough's Subdivision Ordinance requires that street grades not exceed 15 per cent, and that the Planning Board has the right to require grades of less than 15 per cent under special conditions.

5. Street Alignment. Poor street alignment is the major impedance in the Borough's street system. Limited sight distance, hazardous curves, blind turns and circuitous routes result primarily because of topographic elements in Kinnelon including steep terrain, rock outcrops, lakes, ponds and marshes. All of the impedance factors mentioned above are traffic hazards which greatly restrict free traffic flow.

It appears as though the present alignments of many of Kinnelon's streets follow original "wood" roads which were designed for the functional convenience of early settlers. In short, they were not designed to serve the traffic demands placed on them today. Where alignments are extremely poor and physical obstacles are not too great, realignment is possible and desirable.

Since street alignment is generally poor throughout the Borough, it is difficult to pin-point exact locations and compile a complete list of critical areas. All of the heavily traveled major streets, and in particular Boonton Avenue and Kiel Avenue, require further improvement study.

A number of hazardous curves with limited sight distance may be found along the following major roads:

Kiel Avenue -	between Witty Road and Fayson Lakes Road and between Kakeout Road and Ricker Road.
Fayson Lakes Road -	between Lake Reality and South Fayson Lake.
Boonton Avenue -	at a point a short distance south of Cotluss Road and at the intersections of Colonial Lane and Boonton Avenue and Fayson Lakes Road and Boonton Avenue.

Additional evidence of hazardous curves occurs in both the Smoke Rise and Fayson Lakes developments.

6. Dangerous Intersections. Street intersections are generally major deterrents to the free flow of traffic and the most frequent location of

traffic accidents. By ordinance all streets intersecting with both Boonton and Kiel Avenues within the Borough are stop streets. In addition, other traffic signs are displayed at various points to warn drivers of specific conditions. There are no traffic lights in Kinnelon.

Kinnelon's irregular topography has created a number of intersections which are very hazardous because of inadequate sight distance, acute angles and steep grades. Several dangerous intersections are listed below:

- |                        |   |
|------------------------|---|
| a. Kiel Avenue -       | Maple Lake Road                                   |
| b. Kiel Avenue -       | Ricker Road                                       |
| c. Fayson Lakes Road - | Ridge Trail -- Cliff Trail --<br>Lake Trail South |
| d. Fayson Lakes Road - | Oakwood Trail                                     |
| e. Fayson Lakes Road - | Private road to East and South<br>Fayson Lakes    |
| f. Boonton Avenue -    | Colonial Lane                                     |
| g. Boonton Avenue -    | Saw Mill Road                                     |
| h. Boonton Avenue -    | Fayson Lakes Road                                 |
| i. Boonton Avenue -    | New Brook Valley Road                             |

While many local streets have dangerous intersections, one in particular requires immediate attention. A "T" intersection is formed by Toboggan Trail and Lake Trail West. This intersection definitely requires a barrier at the foot of Toboggan Trail.

#### Public Transportation

There is presently no public bus or passenger railroad service in Kinnelon. Bus service is provided along State Route 23 to the New York Port Authority Building. The nearest bus service to Jersey points is in Butler. Railroad facilities are located in Towaco, Butler and Boonton.

Smoke Rise provides an express commuter bus service to Times Square, New York, for club members.



## Traffic Plan

As Kinnelon and the municipalities around it increase in population, the street system will have to accommodate a considerable increase in traffic flow. This means the addition of new streets to serve new development, and the organization of these streets into the Borough's street system so that it will function safely and efficiently. It also means the improvement of existing major streets to handle the anticipated increases in traffic volumes.

The Traffic Plan is designed to provide for a convenient system of routes, both for through and for local traffic, to prevent and decrease traffic congestion, to increase safety of travel, and to protect residential areas from intrusion of through traffic.

## Street Classification

Kinnelon's street system falls into four major classifications. These classifications, their essential function, the width standards necessary for them to fulfill their function and the existing streets which are recommended for each classification are listed below. It should be noted here that the width standards presented are merely guides and not hard and fast rules. Variations in the character of abutting development, topographic conditions and volumes and types of traffic often require deviations from the recommended standards.

### 1. Arterial Thoroughfares

Function - To carry a heavy flow of through and local traffic.

Street - State Highway Route 23.

### 2. Major Streets

Function - To serve as major routes for traffic passing in, out and through the municipality.

Standards - Right-of-way - 66'; Pavement - 40' - 46'.

Streets - Kiel Avenue and Boonton Avenue.

### 3. Secondary Streets

- Function - To serve as traffic collectors for and links between major streets.
- Standards - Right-of-way - 60'; Pavement - 36'-40'.
- Streets - Fayson Lakes Road, Kakeout Road, and New Brook Valley Road.

### 4. Local Streets

- Function - To serve the essential function of providing access to individual properties.
- Standards - Right-of-way - 50'; Pavement - 24'-30'.
- Streets - All streets not designated as arterial thoroughfares, major streets or secondary streets.

### Street Plan

The plan for improving Kinnelon's street system is shown on the Master Plan Map. One of the difficulties in preparing recommendations for the Borough's street system is the fact that the major street system consists of two County roads. A plan for the realignment of Kiel Avenue was prepared by the County in 1937 and rejected by the Borough. The County, however, is again preparing plans for the realignment of sections of Kiel Avenue.

### Arterial Thoroughfare Proposals

The Borough is well located with respect to State Route 23. The highway, a four-lane divided highway, is adequately designed to carry present traffic volumes and can accommodate a substantial traffic increase. The New Jersey State Highway Department estimates that in the Kinnelon area State Route 23 is operating at less than one-half its design capacity which is 750-1,000 vehicles per lane per hour.



The plan does not contain any specific proposals for State Route 23 nor does it recommend any additional arterial thoroughfares in the Borough.

### Major Street Proposals

Both proposals for major streets involve existing County roads. As County roads, all improvements would be carried out by the County.

Kiel Avenue (County Route 11). The development of northern and northeastern Morris County will greatly increase the importance and use of Kiel Avenue as well as Boonton Avenue. Development in Kinnelon alone has placed an increased burden on these routes primarily due to the inadequacy of their design. With the anticipated increase of traffic traveling along Kiel Avenue, it will be necessary in the near future to improve the alignment of this road in addition to increasing the present right-of-way and pavement width. The present over-all right-of-way is unknown and the predominant pavement width is 18 feet. The existing poor alignment and narrow pavement width of Kiel Avenue greatly restricts traffic circulation and traffic safety.

The Master Plan Map shows the proposed realignment of Kiel Avenue and a possible bypass extending from approximately the east gate entrance of Smoke Rise to State Route 23.

The existing alignment of Kiel Avenue east of the proposed bypass would be maintained as a local access road leading to residential development along Kiel Avenue and the Kiel Avenue school sites and playgrounds as discussed in the Land Use Plan.

The virtue of the proposed alignment and bypass, in addition to improving traffic circulation, is the fact that most of the adjoining land in the proposed right-of-way is now undeveloped and could be acquired by the County at a reasonable cost. It is recommended that every effort be made to encourage County officials to acquire the right-of-way for the proposed route as soon as possible.

Initially the roadway might be constructed as a two-lane roadway on one side of the right-of-way leaving room for the ultimate construction of additional lanes. A right-of-way of 75 feet and a pavement width of 44 feet is recommended.

It is further recommended that all intersections affected by the proposed realignment of Kiel Avenue be made right-angle intersections wherever possible to promote traffic safety.

Boonton Avenue (County Route 23). Boonton Avenue is very similar to Kiel Avenue. Both suffer from the same deficiencies and both must be redesigned to serve expected increases in traffic volume.

Irregular topography in Kinnelon does not permit the development of one single road to carry major traffic volumes. The desirability of such a system is also questionable from a circulation viewpoint. Therefore, it is recommended that Boonton Avenue be classified and redesigned as a major street with a right-of-way of 66 feet and a pavement width of 40 feet. This would allow a minimum of two 12-foot moving lanes and two 8-foot parking lanes.

The proposed realignment of Boonton Avenue is shown on the Master Plan Map. Four sections are recommended for realignment to improve traffic circulation and traffic safety. One section exists at the intersection of Boonton Avenue and New Brook Valley Road, the second at the intersection of Boonton Avenue and Fayson Lakes Road, the third is north of Saw Mill Road, and the fourth is south of Cotluss Road. Wherever physically possible, streets intersecting with Boonton Avenue should form right-angle turns. Both the Fayson Lakes Road and the New Brook Valley Road entrances to Boonton Avenue should be made right-angle intersections when Boonton Avenue is realigned.

#### Secondary Street Proposals

It is recommended that three roads -- Fayson Lakes Road, Kakeout Road, and New Brook Valley Road -- be classified as secondary streets. These existing streets should have their rights-of-way increased to 60 feet where possible. The present pavement width on all three of these roads ranges from 16 to 19 feet. It is recommended that the pavement on all three roads be ultimately widened to 36 feet.

Fayson Lakes Road. Fayson Lakes Road is the only link between western and eastern development in Kinnelon. As Kinnelon develops the road's function as a connector between Kiel Avenue and Boonton Avenue will become increasingly more important.

Topography prevents the construction of any other centrally located east-west secondary street in the Borough. Therefore, it is essential that steps be taken as soon as possible to acquire additional rights-of-way wherever possible in order to provide for the pavement widening of Fayson Lakes Road to minimum secondary street standards.

To eliminate a number of hazardous curves it is strongly recommended that engineering studies be made to determine the feasibility of realigning Fayson Lakes Road in the area of the Fayson Lakes development.

It is also recommended that the intersections formed by Fayson Lakes Road on Kiel Avenue and Boonton Avenue be made right-angle intersections in line with the proposed realignment of the two latter roads.

Takeout Road. Takeout Road presently extends in an easterly direction from approximately the northern most point of Kiel Avenue in Kinnelon to Boonton Avenue in Butler. After leaving Kinnelon and proceeding through Butler the road becomes circuitous and extremely hazardous. Its major function in Kinnelon is to provide access to individual properties. The road's present alignment renders it undesirable as a northern link between Kiel Avenue and Boonton Avenue. As Kinnelon develops, however, a northern link between these two major roads will become extremely important. Therefore, it is recommended that a new road be constructed as a continuation of Takeout Road. This new road would extend from the Kinnelon municipal boundary along the boundary to where it would form a right-angle intersection with Boonton Avenue above Shirley Terrace. The new road -- a continuation of Takeout Road -- would form a desirable link between Kiel Avenue and Boonton Avenue. Kinnelon should meet with Butler regarding construction arrangements where the alignment of the roadway extends along the boundary line of the two Boroughs.

It is recommended that Takeout Road and its proposed continuation have a right-of-way of 60 feet and a pavement width of 36 feet.

New Brook Valley Road. This road extends indirectly from Boonton Avenue in southern Kinnelon to Jacksonville Road in Montville Township. For the most part only those sections of the roadway which are located within Kinnelon are improved. The unimproved stretches of roadway located in Montville Township are extremely poor and under certain seasonal conditions are impassable.

At the present time Brock Valley Road carries very little traffic primarily because of its over-all unimproved condition. Its primary function is to provide access to a relatively small number of homes and entrance to two summer camps -- Camp Aheka and a camp operated by the Fairlawn Boys Club. Generally, the area which the road traverses is undeveloped. Except for some marginal acreage, the land along this roadway has considerable development potential. In addition to its development potential, New Brook Valley Road, if improved and realigned, would provide a means of access to adjoining municipalities to the southeast and east.

It is recommended that New Brook Valley Road be improved in cooperation with surrounding municipalities. Special consideration should be given to the possible increase in the use of this road when definite realignment and interchange locations are fixed for U. S. Route 202.

Two proposals are made for new secondary streets in Kinnelon. They are as follows:

1. It is recommended that Ricker Road or a new road in the immediate vicinity of Ricker Road be connected with Cherry Tree Terrace or Smoke Rise Road. At the present time there are only two means of egress and ingress to Smoke Rise. One roadway, the main entrance, extends from State Route 23 and the other, the service entrance, from Kiel Avenue. The relationship of these two access roads to each other is poor. If an emergency should arise, and one accessway is impassable, it is extremely difficult to arrive at the single remaining entrance to Smoke Rise without excessive driving and loss of valuable time.

As long as Smoke Rise remains private this road could remain closed and only opened in case of emergency. If and when Smoke Rise makes its streets public this road would provide a much needed supplementary means of access.

2. It is recommended that Stone House Road be realigned as shown on the Master Plan Map. The recommended right-of-way is 60 feet with a pavement width of 36 feet.

### Local Street Proposals

One specific proposal is made for a new local street. It is recommended that Pepperidge Tree Lane in northern Smoke Rise be connected with State Highway 23. Also, serious consideration should be given to providing additional access to Smoke Rise when new subdivisions are plotted in the area between Kiel Avenue and the southern portions of the Smoke Rise property.

Except for some minor adjustments as shown on the Master Plan Map there are no other specific proposals made for the numerous local street which include about 75 per cent of the street mileage in Kinnelon. Some of these streets will require repairs and perhaps widening to an acceptable standard. Such improvements will be part of the regular street improvement and maintenance program carried on by the Borough.

A considerable number of new local streets are still possible in Kinnelon since there are numerous vacant tracts of land suitable for development scattered throughout the Borough. There are also many unimproved streets such as Miller Road and Saw Mill Road which will require improvement as the Borough develops.

In all instances where streets whether local or otherwise intersect with other streets, the intersections should be designed at right-angles except where topography makes a 90 degree intersection impossible.

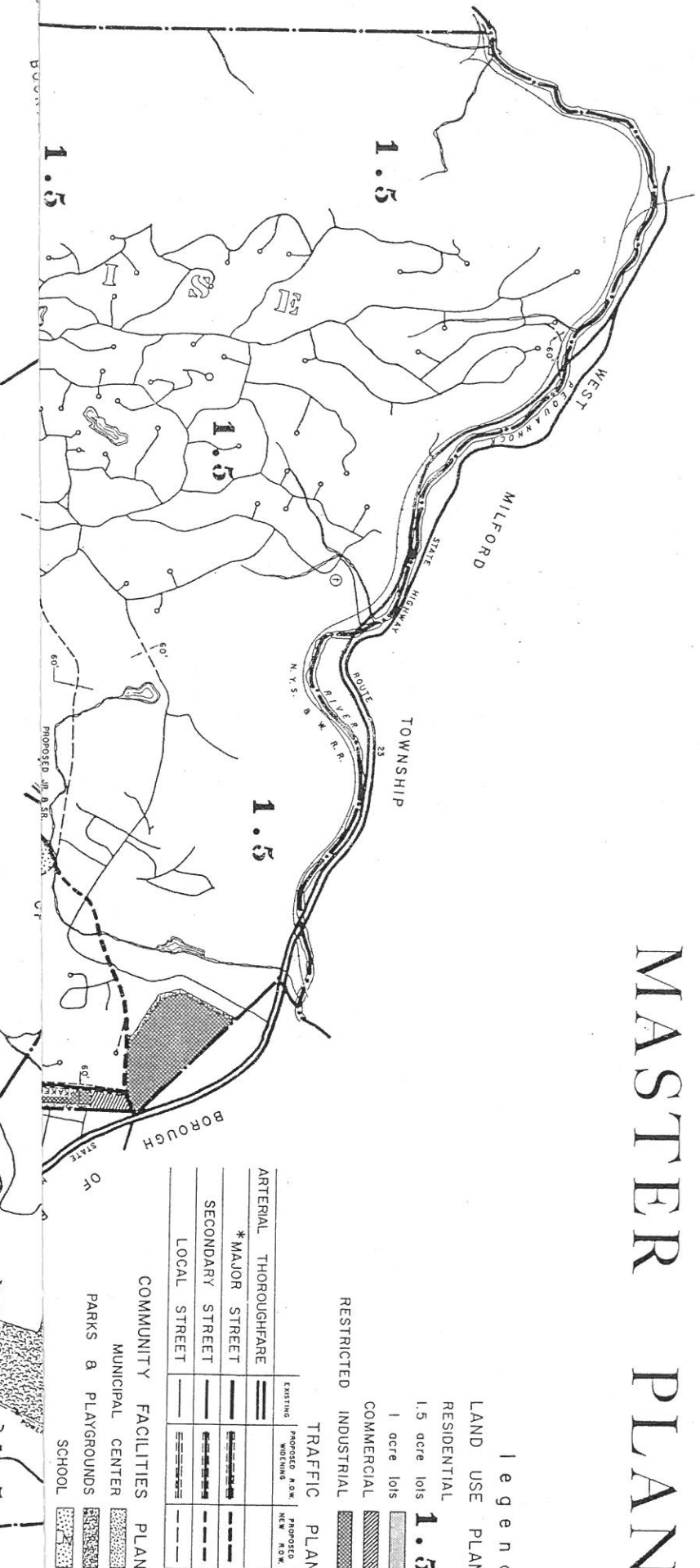
Several of the conditions which the Planning Board and Borough Council must consider in reviewing all subdivision plats are succinctly stated as follows in 40:55-1.30 of the Revised Statutes of the State of New Jersey:

"In acting upon plats the planning board shall require, among other conditions in the public interest, that the tract shall be adequately drained and the streets shall be of sufficient width and suitable grade and suitably located to accommodate the prospective traffic, to provide access for firefighting equipment to buildings and to be co-ordinated to the official map, or if there is no official map, relating properly to the existing

street system. Where the planning board after hearing has adopted portions of the master plan with proposals regarding the street system within the proposed subdivision, the board may require that the street shown conform in design and in width to the proposals shown on the master plan. No street of a width greater than fifty feet within the right-of-way lines may be required unless said street already has been shown on such master plan at the greater width, or already has been shown in greater width on the official map."



# MASTER PLAN



## Legend

### LAND USE PLAN

- RESIDENTIAL 1.5 acre lots
- COMMERCIAL 1 acre lots
- RESTRICTED INDUSTRIAL

### TRAFFIC PLAN

	EXISTING	PROPOSED N.O.W.	PROPOSED WIDENING	NEW N.O.W.
ARTERIAL THOROUGHFARE	—	—	—	—
* MAJOR STREET	—	—	—	—
SECONDARY STREET	—	—	—	—
LOCAL STREET	—	—	—	—

### COMMUNITY FACILITIES PLAN

- MUNICIPAL CENTER
- PARKS & PLAYGROUNDS
- SCHOOL

# KINNEELON

MORRIS COUNTY, NEW JERSEY

KINNEELON PLANNING BOARD

CANDOUR & ASSOCIATES CONSULTANTS



DECEMBER - 1959

The preparation of this plan and the maps thereon are the responsibility of the Planning Board of Kinneelon Township, New Jersey. The Board has authorized the Planning Board to execute the plan and the maps thereon and to accept the responsibility therefor. The Board has also authorized the Planning Board to execute the plan and the maps thereon and to accept the responsibility therefor.

## LAND USE PLAN

### Introduction

Land and its proper development is one of the basic concerns of any planning program. The manner in which land is used and the relationship of various uses to one another is significant in determining the character of the community, the quality of its neighborhoods and the strength of its tax base. These considerations have particular significance in Kinnelon since 81.4 per cent of its land area is still undeveloped.

The following section of the report presents a long-range plan for the public and private uses of land in Kinnelon. It designates those areas of the Borough, which are most suitable and appropriate for residential, commercial, industrial and public uses. The plan which is concerned with the entire physical environment of the Borough shows a general picture of how Kinnelon's land area might be developed during the next twenty years.

The objectives of the plan are as follows:

1. The continued maintenance of Kinnelon's semi-rural residential character and the preservation of community appearance.
2. The reservation of areas large enough to serve the various public and private land use needs of a balanced community.
3. The creation of a sound pattern of development through the compatible arrangement of different uses of land.
4. The protection and encouragement of stable and desirable residential neighborhoods served by an adequate system of community facilities.
5. The establishment of well-defined commercial and industrial areas to serve the residents of the community and to strengthen the tax base.



### Summary of Existing Land Use

The major findings of the detailed land use analysis discussed previously are as follows:

1. Kinnelton has a land area of 12,062.9 acres.
2. The total developed area, including all established streets is 2,239.2 acres, or about 18.6 per cent of the land area of the Borough.
3. Of the 2,239.2 acres of developed land, 854.6 acres or approximately 38 per cent is in residential use.
4. Approximately 36.8 per cent of the total developed land is occupied by watersheds.
5. Commercial uses occupy only 1.3 per cent and industrial uses 0.1 per cent of the total developed land area.

### Existing Zoning Districts

The Kinnelton Zoning Ordinance and Map divides the Borough into two zoning districts -- A-1 Residence and Business. The principal uses permitted in each of these districts are as follows:

A-1 Residence -- Permitted uses; Single family detached dwellings, accessory buildings including private garages, specified forms of agriculture or horticulture, churches and other public and semi-public uses.

Minimum lot size: one acre

Minimum lot width: 150 feet

Business -- Permitted uses; Bakeries, barbershops and beauty parlors, funeral homes, household appliance repairs, hand laundries and laundrettes, restaurants, diners, sales or showrooms (other than automobile), retail dyeing and cleaning establishments, retail stores, theatre and motion picture houses, and accessory buildings.

Minimum lot size: optional

Minimum lot width: optional

Table XII

PROPOSED LAND USE - KINNELON BOROUGH

<u>Land Use</u>		<u>Acres</u>
Residential		5,817.7
Commercial		80.4
General	23.7	
Neighborhood	31.0	
Highway	25.7	
Restricted Industrial		73.5
Recreational (excluding school)		1,422.6
Municipal	24.9	
County	773.1	
General	624.6	
Public and Semi-Public		176.7
Public Watersheds*		823.0
Streets, Railroads, Public Utilities, tax exempt land and land not suitable for development.		<u>3,669.0</u>
TOTAL LAND AREA		12,062.9
Rivers, Lakes, Ponds and Reservoirs*		<u>545.1</u>
GROSS AREA		12,608.0

\*Note - This figure will change with reservoir expansion in the Borough.

## Zoning and Existing Land Use

Kinnelon's Zoning Ordinance was adopted in 1954. In 1958 and again in 1959 the ordinance was amended in order to increase the minimum area requirement in each of the four original residential zones. The present zoning ordinance divides the Borough into two zones, Residence A-1 and Business. The minimum lot size in the A-1 Residence Zone is one acre.

The existing land uses are, for the most part, consistent with the zoning districts. This has been accomplished by providing spot business zones throughout the Borough. There are, however, a number of non-conforming uses within the established residential zone. These non-conforming uses include an industrial establishment, several commercial establishments, four summer and day camps, and a private park.

## Residential Land Use Plan

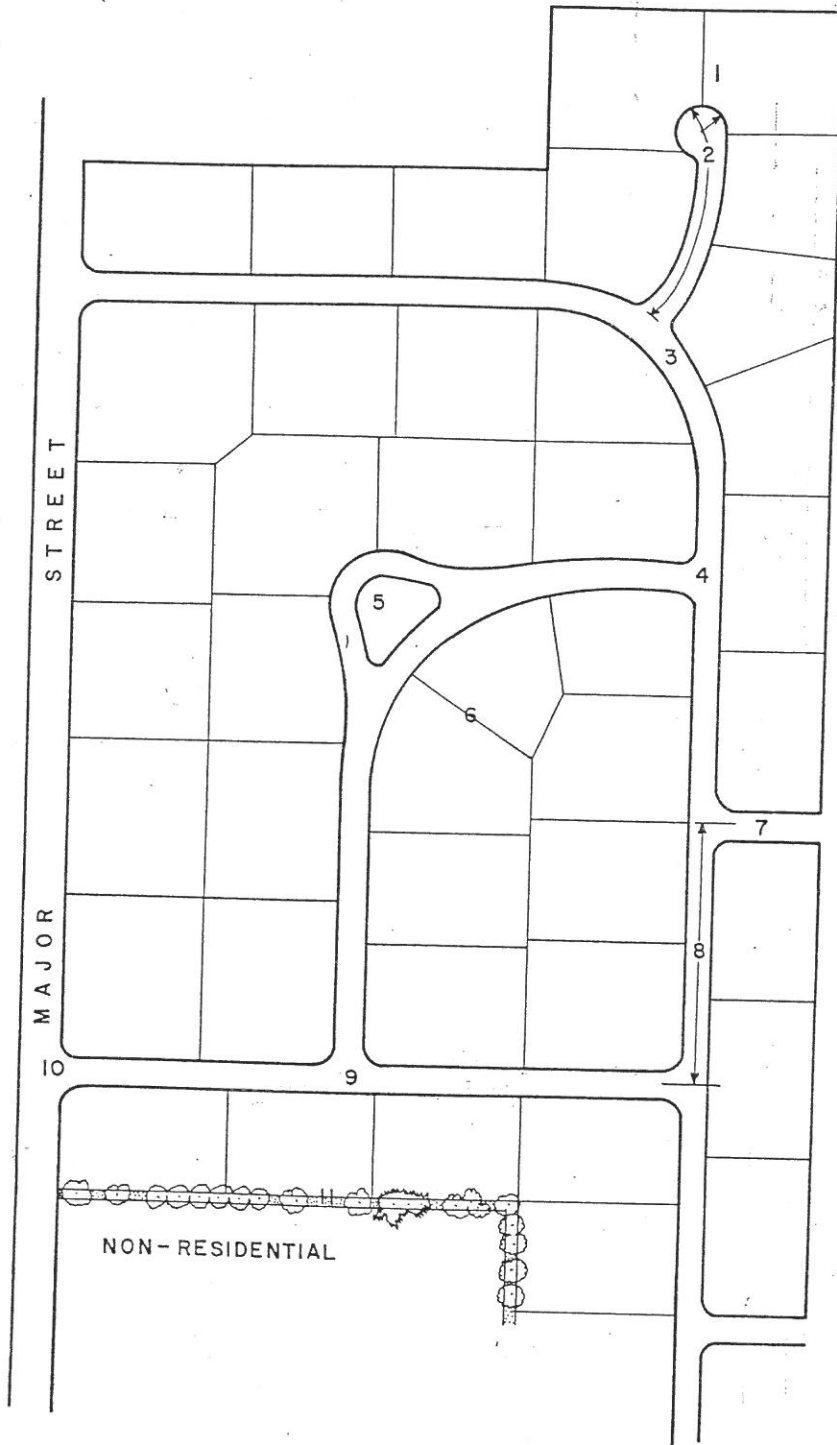
The residential land use plan designates those areas where residential land use is proposed and recommends minimum lot sizes for all future development.

In determining the type of residential density which is appropriate for various sections of the Borough, the following factors have been considered:

1. The physical character of the area, and the probable effect on development on the local road system, sewage disposal, storm water drainage, and the desirability of preventing unattractive changes in the local landscape.
2. The future need of community service facilities, such as water supply, garbage collection, sewerage, new schools, and parks and playgrounds.
3. The existing road system and its ability to serve increased development without extensive improvement.
4. The desirability of maintaining residential values as high as practical in order to protect these values which will always be the greatest part of the Borough's tax base.

# SUBDIVISION DESIGN

## ILLUSTRATIVE SKETCH



- 1 Cul-de-sac utilizes odd parcel to advantage
- 2 Cul-de-sac turn-around radius 50'; maximum length 500'.
- 3 Curved street pattern controls traffic flow; is adaptable to rough topography; eliminates unnecessary cross streets; avoids monotony
- 4 Street intersections at right angles reduce hazards.
- 5 "Eyebrow" provides frontage for additional lots in deeper sections of block.
- 6 Lot-side-lines perpendicular to street right-of-way lines.
- 7 Provision of access to adjoining undeveloped land.
- 8 Minimum street jog separation 125'.
- 9 Three-way intersections reduce hazards.
- 10 Limited access to major street.
- 11 "Buffer strip" (planting screen) to provide protection from non-residential use.

# K I N N E L O N

## MORRIS COUNTY, NEW JERSEY

### K I N N E L O N P L A N N I N G B O A R D

I. CANDEUB & ASSOCIATES

CONSULTANTS

DECEMBER - 1959

THE PREPARATION OF THIS MAP WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE HOUSING AND HOME FINANCE AGENCY, UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954 AS AMENDED. THE REMAINDER HAS BEEN FINANCED BY LOCAL FUNDS AND BY AN APPROPRIATION OF THE STATE OF NEW JERSEY AS PART OF THE EXPANDED STATE AND REGIONAL PLANNING PROGRAM.

The residential densities which are proposed are as follows:

1. Lot Sizes of 1.5 Acres

Average lot sizes of 1.5 acres are recommended for the greater part of Kinnelon. The exception is the Fayson Lakes area which generally has smaller lots than the rest of the Borough.

Large lot sizes are necessary in Kinnelon because of the considerable amount of sloping land, the lack of public sewers and water, and the unique suitability of the area for high quality home development. The State Geology Department has advised the consultant that lots of 1-1/2 acres should be sufficient to prevent harmful interference between adjoining wells.

In order to permit some flexibility in development it is recommended that the subdivision and zoning regulations be revised to permit an average lot size of 1.5 acres. Under such regulations a minimum lot size of 1 acre would be allowed provided that there were enough larger lots in a subdivision to create an overall average of 1.5 acres. Recommended standards to effectuate this, are discussed in the regulatory controls section of this plan.

2. Lot Sizes of 1 Acre

The average lot size of 1.5 acres will not apply to that portion of the Fayson Lakes area originally zoned as a B-2 residential zone. The Fayson Lakes area be formerly defined area from the

Ultimate Population Potential

The present zoning regulations of the Borough will permit an estimated ultimate population of about 23,000 residents if all residentially zoned land suitable for development is fully developed. However, if the recommendations of the residential land use plan are incorporated in a new zoning ordinance, the population at full development, as estimated, would only reach approximately 18,000 residents. It should be noted that the recommended density standards are for single-family development as is presently specified in the existing zoning ordinance. Further, the total may vary somewhat as a result of the following changes:

1. The total will increase if the land presently used for general recreational purposes is developed residentially.
2. The total will decrease slightly because of proposed power utility, and watershed and reservoir expansion.
3. An unpredictable rise or decline in average household size in Kinnelon will have a corresponding effect on the ultimate population.

The above estimate, derived on the basis of proposed zoning and existing land use, is merely an indication of the Borough's total potential population. It is improbable that such a total will be reached in the foreseeable future. However, this is the potential population Kinnelon must begin to plan for now while it is not severely limited by extensive development. It is essential that sufficient public areas be reserved and developed according to accepted standards as the Borough grows.

#### Commercial Land Use Plan

The growing population in Kinnelon will require an increasing amount and variety of types of business development to serve it. There is a need not only for retail stores and service establishments which serve the residents directly, but also for commercial activities such as banks, real estate offices, gas stations, etc. which are vital to the daily operation of any community.

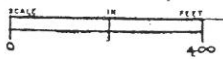
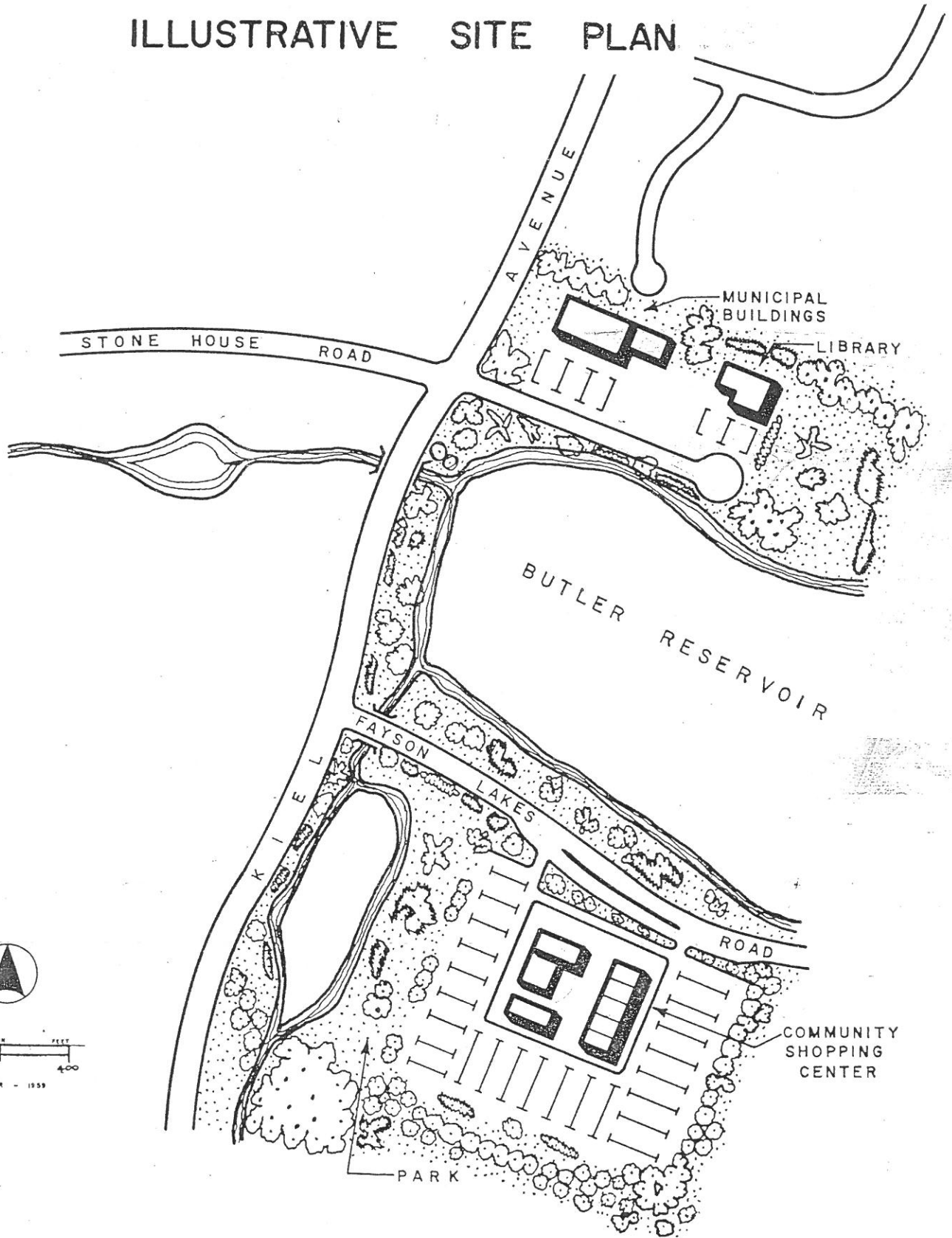
With the Borough's economy now depending almost entirely on employment areas outside of Kinnelon, there is a need for internal employment opportunities and for increased non-residential development that will bring in taxes to assist residential properties in meeting the costs of the educational and other public services required by the people of the Borough.

The amount and location of land designated in the Plan for commercial development has been based on the following factors:

1. The limited size and variety of established businesses.
2. The provision of adequate business areas to absorb the potential purchasing power of the people within the Borough.
3. The anticipated trends of development in the various parts of the Borough.
4. The availability, suitability and accessibility of sites for such development.

# BOROUGH CENTER

## ILLUSTRATIVE SITE PLAN



DECEMBER - 1959

# K I N N E L O N

## MORRIS COUNTY, NEW JERSEY

K I N N E L O N P L A N N I N G B O A R D

I. C A N D E U S & A S S O C I A T E S

C O N S U L T A N T S

THE PREPARATION OF THIS MAP WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE HOUSING AND HOME FINANCE AGENCY, UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1934 AS AMENDED. THE REMAINDER HAS BEEN FINANCED BY LOCAL FUNDS AND BY AN APPROPRIATION OF THE STATE OF NEW JERSEY AS PART OF THE EXPANDED STATE AND REGIONAL PLANNING PROGRAM.



Approximately 80 acres are designated exclusively for commercial use on the Land Use Plan. Basically, all the commercial areas are concentrated in several well-defined locations within reasonable access of the areas they are designed to serve. Experience has shown that the old concept of zoning either side of a principal street for business has produced a sporadic ribbon-type development which blights adjoining areas, becomes unsightly, is inconvenient for the shopper and creates a traffic hazard.

The type, location, size and number of commercial areas recommended for development in Kinnelon are as follows:

1. Community Shopping Centers. The community shopping center is the primary trade area of a municipality. It consists of a group of commercial establishments planned, developed and managed as a unit with adequate off-street parking provided on the property as an integral part of the unit. A community shopping center, in addition, to convenience goods and personal services, provides for the sale of soft lines including such items as food and clothing, and hard lines including hardware, household appliances, etc; includes 20 to 40 stores; requires at least 5,000 families to draw from and needs a site area of 10 to 25 acres or more.

It is recommended that a community shopping center consisting of approximately 16 acres, be developed south of Fayson Lakes Road at the intersection of Kiel Avenue and Fayson Lakes Road, as shown on the Master Plan Map. In order to insure controlled development it is further recommended that the zoning ordinance be amended to include standards for a planned business district.

2. Neighborhood Shopping Centers. The neighborhood shopping center draws its volume of sales from within the neighborhood only. It provides for the sale of convenience goods - the daily living needs in food, drugs, sundries, personal services; includes approximately 10 stores; requires at least 1,000 families for support and needs 5 to 10 acres for site area. The supermarket or variety store is usually its largest tenant.

Two shopping areas, one existing and the other proposed, are recommended for classification as neighborhood shopping centers. The existing area, consisting of 25 acres zoned for business, is partially developed within Smoke Rise in the village area along Perimeter Road. The second site, recommended for development as a neighborhood shopping center, is located along the western side of Boonton Avenue just south of the existing fire house. The area is presently undeveloped and is zoned residentially. The recommended site area for this proposed shopping center is approximately 6 acres.



No additional neighborhood shopping facilities are recommended for other areas due to the fact that they are within close driving proximity of the proposed community shopping center and a shopping center being developed at the intersection of Kiel Avenue and State Route 23- situated partly in Kinnelon and partly in Butler.

Also planned for the general area of the proposed neighborhood shopping center is a commercial building at the corner of Fayson Lakes Road and Boonton Avenue on a site of approximately one acre.

3. Highway Commercial Area. A small section in the north-eastern corner of Kinnelon which is bisected by State Route 23 is recommended for highway commercial zoning.

The uses permitted in such a zone might include gas stations, restaurants, hotels, motels, nurseries, greenhouses, fruit stands, antique shops, semi-public organizations, animal hospitals, suburban office buildings and other uses of the same general character.

At present, the area is almost entirely zoned for business, however, it would be desirable to establish specific controls for highway commercial use which would safeguard against the creation of hazardous traffic conditions on the through route.

#### Industrial Land Use Plan

Since Kinnelon is experiencing new residential growth and an increase in tax costs to meet the expenses of serving the new population, it will be beneficial from a financial standpoint, to have added non-residential tax income to help balance the rise in municipal costs. As desirable as this may be, it is not contemplated that there will be any extensive industrial development in the Borough in the foreseeable future for the following basic reasons:

1. The desire of residents to maintain the Borough primarily as a residential community without a substantial amount of non-residential uses.
2. The limited area in the Borough suitable for such uses.

3. The absence of public utilities and transportation facilities.
4. The present availability of relatively more desirable locations for such uses elsewhere in the region.

The problem of fitting industrial development into the Borough's over-all pattern of land use thus resolves itself into the selection of those few areas where industrial uses can be located without being detrimental to neighboring residences and still be reasonably attractive to developers, and the employment of standards for such development that will avoid adverse effects on residential development.

The criteria for the selection of specific sites should include the following:

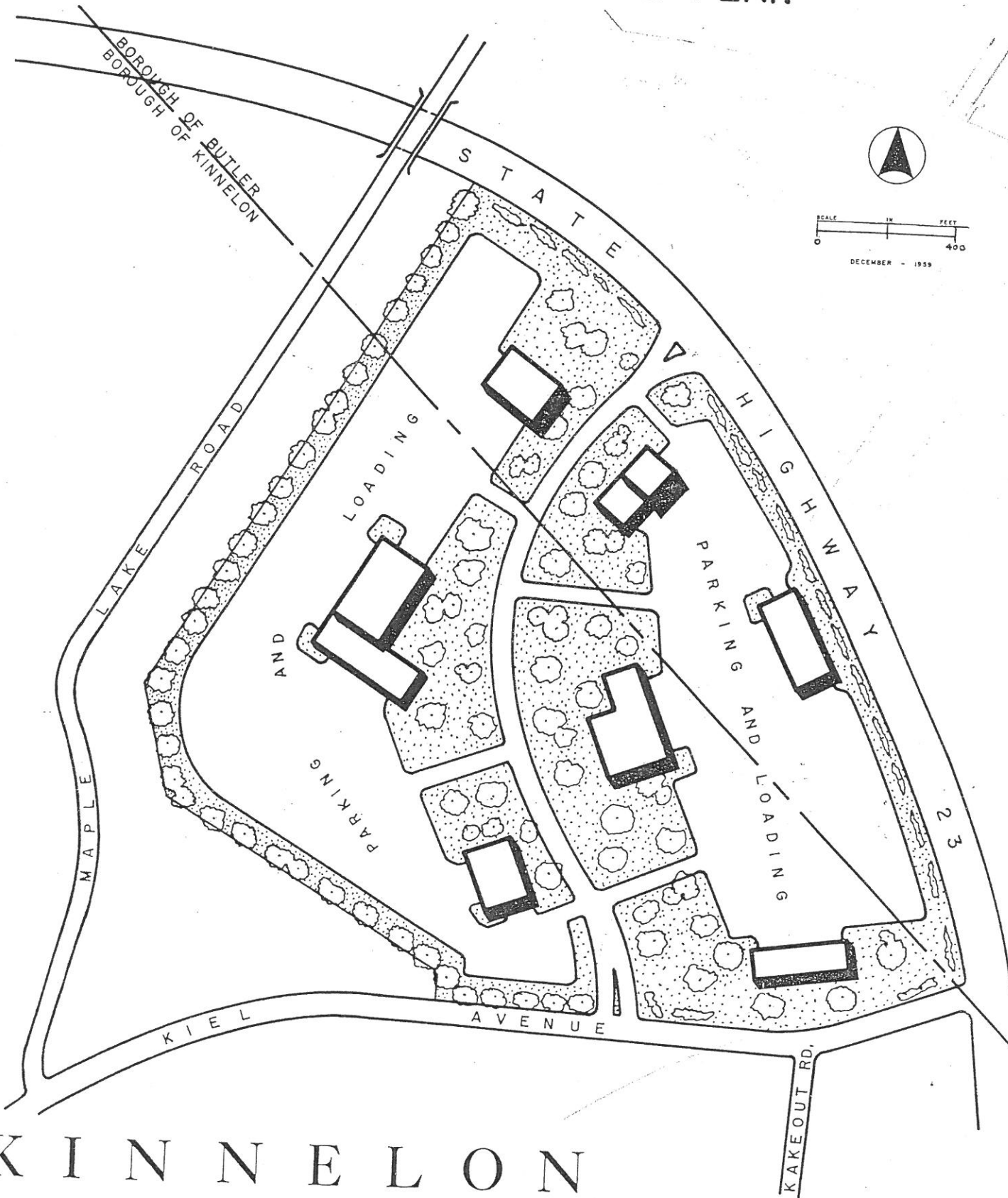
1. A location on, or nearby, a main through-traffic route, thereby avoiding the impact of added traffic on local residential streets.
2. An area large enough to permit low building coverage, adequate off-street parking and delivery area and attractive landscaping.
3. A location which can be properly buffered to protect existing residential sections and areas likely to be developed for residential use.
4. A location that is well served by public utilities, particularly water. This in itself is a negative factor in Kinnelon since the Borough does not have a public water system.

Two areas, covering about 73 acres, are proposed for restricted industrial use in Kinnelon. The uses contemplated for these areas are suburban office buildings or a high type of industrial use such as research laboratories. Zoning for industry is not contained in the Borough's present Zoning Ordinance.

Adoption of appropriate standards requiring large setbacks, adequate screening, appropriate landscaping and limited site coverage should be made a part of the ordinance once the Borough develops a clear policy with respect to industrial development.

# PLANNED INDUSTRIAL PARK

## ILLUSTRATIVE SITE PLAN



KINNELON  
 MORRIS COUNTY, NEW JERSEY  
 KINNELON PLANNING BOARD  
 CANDEUB & ASSOCIATES

THE PREPARATION OF THIS MAP WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE HOUSING AND HOME FINANCE AGENCY, UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1949 AS AMENDED. THE REMAINDER WAS AFFR FINANCED BY LOCAL BOND ISSUES.

Restricted industrial use is proposed in the following locations:

1. On a site along Kakeout Road abutting the new Meadetown Shopping Center.
2. In an area, comprising approximately 59 acres, generally located between Maple Lake Road, Kiel Avenue and the municipal boundary. It would be highly desirable to work jointly with the Borough of Butler in the development of this area by extending its frontage to State Route 23. This would benefit both communities. The area in Butler is undeveloped and is zoned for both commercial and residential use.

## PARKS AND PLAYGROUNDS PLAN

### Introduction

Planning for recreation facilities should be based on principles that reflect the best thinking of the community regarding the purpose, scope and general character of the public recreation system. Especially, planning principles are needed (1) to determine the general approach to the selection and location of park and playground facilities; (2) to establish the relationship of one park site to another in the overall plan of recreation areas; (3) to establish the relationship of the recreation facilities to other physical elements of the community.

Only recently, has Kinnelon felt the impact of suburbanization that has affected other New Jersey municipalities for a long time. In these communities the lack of adequate planning combined with the pressure from individual developers, has often resulted in community developments that did not have sufficient and properly located recreational facilities.

Kinnelon presently has an advantage. It is now in a position to determine its future recreation system without undue limitation in the form of extensive land development. Since the effectuation of a recreation plan usually requires a period of several years, a park and recreation area plan is a vital part of the Master Plan.

### Existing Facilities

The Borough does not have any municipally owned parks or recreation areas other than the Kiel Avenue and Stonybrook School playgrounds.

The partially completed Stonybrook School playground - playfield when finished will approximate 3.30 acres. It provides space for diversified major and minor activities. A small surfaced outdoor play area is also provided for kindergarten children.

TABLE XIII

RECREATIONAL FACILITIES - KINNELON BOROUGH

(Excluding General Recreational)

School Playgrounds

1. Kiel Avenue School (Total area of site) 24.0 acres	
a) asphalt surface play area	0.14
b) semi-improved playfield	<u>1.25</u>
	1.39
2. Stonybrook School (Total area of site) 12.0 acres	
a) asphalt surface play area	0.10
b) improved playfield	<u>3.30</u>
	3.40
Total	4.79 acres

Private (incl. Smoke Rise and Fayson Lakes) - restricted to members

1. Smoke Rise	
a) beach	8.38
b) reserve (incl. ballfield)	<u>69.27</u>
	77.65
2. Fayson Lakes	
a) beach	2.30
b) playfield	<u>0.75</u>
	3.05
Total	80.70

Privately Owned - restricted use

1. Ballfield
2. Shooting range

The Kiel Avenue School has a small surfaced play area of about 0.14 acres. This play area is equipped for small children. The remaining vacant school property on the original 4.5 acre site which is suitable for recreational purposes is graded but has a rough surface. Approximately five-sixths of the entire 24 acre school site is undeveloped.

Local recreation facilities to date have mainly been provided privately. A ballfield and shooting range located on private properties have served the Borough's organized and highly participated P. A. L. recreation program. The future availability of these sites is not definite. The continuing pressure of suburbanization may force the owners of these private facilities to dispose of their land for development purposes. They cannot, therefore, be included as a part of the Borough's long-range recreation plan.

Smoke Rise and Fayson Lakes provide their own private beach and recreation areas. These areas are operated as clubs with membership limitations or restrictions and thus do not serve the Borough as a whole.

#### Recreation Facilities Outside the Borough

There are two state parks located within a six mile radius of Kinnelon. One is the Farny Park in Rockaway Township. This park consists of 803 acres of undeveloped land. The other New Jersey State Park, Norvin Green State Forest, is located in Milford Township and the Borough of Bloomingdale in Passaic County.

At the present time there is only one county park in the Kinnelon area. This park is located in Boonton. In a report prepared for the County Park Commission, however, a recommendation was made that two areas, one surrounding Saw Mill Road and Untermeyer Pond and a second along Kiel Avenue be considered for future development as part of the County park system.

In addition to the parks indicated above there are various public and private facilities located in nearby communities. These include golf courses, and a variety of other commercial recreation facilities.



### Adequacy of Existing Facilities

Area Standards: Over a period of years several standards have been developed as guides in determining the amount of land needed for parks and playgrounds. The National Recreation Association recommends 10 acres per 1,000 population. The existing recreation space in Kinnelon, in relation to its overall population, averages out to approximately 22.0 acres per 1,000 residents.

This, however, does not present a realistic picture since 80.7 acres or 94 per cent of the total recreational area in Kinnelon is contained in Fayson Lakes and Smoke Rise, two private residential developments. Recreational facilities within these two developments are restricted to members only and, therefore, do not serve the remaining residents in the Borough.

A finer breakdown, excluding the two private developments, reveals that there is a current deficiency of about 11 acres in the remainder of the Borough. The Fayson Lakes development, based on its present population also has a recreational area deficiency of approximately 11 acres. Smoke Rise on the other hand has a substantial reserve of approximately 66 acres in excess of the needs of the current club population.

It is valid to state that the present recreation deficiency in the Borough is not serious because of the substantial amount of vacant and undeveloped land in Kinnelon, as well as, the present use of private properties for recreational purposes. Yet, as Kinnelon grows in population, as home after home is built and additional subdivisions are created and developed, this open land will gradually begin to disappear. If the Borough is to remain as a good place in which to live, public recreation areas must be created to replace open areas that will no longer exist. This will be of increasing importance with the expected increase of leisure time during the years ahead.

Significant also is the fact that although Kinnelon has numerous lakes and ponds there are no swimming facilities open to the general resident population within the Borough



Location: Each recreation facility should be centrally located for the area it is to serve and should be readily accessible by all residents of that area.

Generally speaking Kinnelon has only two concentrated residential areas -- Smoke Rise and Fayson Lakes. The remaining development is scattered along various roads -- Kiel Avenue, Boonton Avenue, Ricker Road, Kakeout Road and Cotluss Road. It is difficult to centrally locate recreational facilities for development of this sort. The two school playgrounds serve their respective areas. However, not all the homes in each school area are within walking distance of the school facilities.

A place for athletic activities for children and adults, close to home, is a facility which enhances the value and stability of a residential neighborhood. It is necessary to adopt a plan for a comprehensive recreation system which will serve all potential neighborhoods and assure a proper share of recreation space for each family.

#### Types of Recreation Facilities Needed

Playgrounds. Playgrounds are the most important active play areas for children between the ages of five to fifteen. Facilities should include, swings, slides, climbing equipment and wading pools. Open space should also be available for group sports such as soccer, basketball and softball.

The service radius of a playground is generally 1/2 mile which is considered to be a reasonable walking distance in an area of single family homes.

The average playground should have an area of five to ten acres and there should be at least one playground per neighborhood. Where feasible a playground should be located at an elementary school.

Playfields. Playfields generally include facilities for several active organized field sports such as baseball and football and are intended for the primary use of young people and adults, ages 15 and over.

There should be at least one playfield for every 15,000 persons. The service radius of a playfield ranges from a mile to a mile and a half and it is generally desirable to combine this facility with a high school athletic field. A minimum area of about 30 acres is recommended for a playfield.

Parks. Parks are intended primarily for passive recreation for all age groups and include such features as walks, benches, shade trees and perhaps some small court or board games. A park should range in area from about 8 to 25 acres. It should serve the population within a half mile radius and there should be at least one park for every 5,000 persons. There should be at least one community park centrally located to serve the municipality as a whole as well as the population immediately surrounding it. A neighborhood park may also be combined with a playground thereby offering facilities for youngsters and parents.

#### Parks and Playgrounds Plan

A plan for the location of parks and playgrounds, including school site playgrounds, is shown on the Master Plan Map. The Recreation Plan consists of the following proposals:

#### Playgrounds

1. It is recommended that a five to ten acre playground be developed on the site of the proposed elementary school located at the intersection of Longmeadow Road and Stone House Road in Smoke Rise.
2. At the present time a major portion of the Kiel Avenue School site is undeveloped. It is recommended that this area be reserved for future recreational development. Improvement of this site could be staged to coincide with residential growth of the area and/or with school expansion needs as they may arise.
3. It is recommended that consideration be given to expanding the Stonybrook School site in order to provide a wider range of recreational facilities.

### Playfields

A playfield is recommended for development in conjunction with the construction of a secondary school proposed on Kiel Avenue. The area of this playfield should range from 30 to 40 acres and include a full range of athletic facilities.

### Parks

It is recommended that approximately 15 acres within the proposed Borough Center located at the intersection of Kiel Avenue and Fayson Lakes Road be developed as a park. It is further recommended that the pond located in the proposed Borough Center be developed for recreational purposes including swimming.

This park will serve the triple purpose of providing a much needed civic facility, enhance the proposed civic center, and buffer surrounding residential development.

Here the Borough would have a unique opportunity to preserve the natural beauty created by the topography in the area.

It is recommended that a landscape architect be engaged to plan the detailed development of the overall park site in order to insure continuous and unified development. Consideration could also be given to partial use of the pond within the area for resident swimming facilities.

### Special Park Area

1. It is recommended that a County Park be developed in the southeastern part of the Borough as generally shown on the Master Plan Map. Much of the land within this area is comprised of excessive slopes and rock outcrops. It is basically not suitable for residential or non-residential use.

The development of the area, since it would be part of the County Park system, would be entirely undertaken by the County.

2. It is recommended that further studies be made to determine the feasibility of promoting multi-purpose use of watershed land. In Boston, Massachusetts and Baltimore, Maryland multi-purpose use of watershed areas for recreational purposes has been successfully undertaken. The governing factor of dual-purpose use in these two areas has been proper water treatment contingent upon State Board of Health approval.

## PUBLIC SCHOOLS PLAN

The Master Plan is primarily concerned with one phase of the public school system: the adequacy of the school plant -- the school buildings, their location, their sites, overall physical condition and their ability to meet present and future enrollments.

During the past few years Kinnelon has experienced rapid residential development. Accelerated growth is typical of most suburban communities in the metropolitan area and will probably continue for the next twenty years. As the Borough's population grows, one of the primary concerns will be the most efficient use of existing facilities and the need for new schools to serve an increasing school-age population.

### School Plant

Kinnelon's school plant now consists of two elementary schools. The Kiel Avenue School houses grades K - 3 and the Stonybrook School, located on Boonton Avenue, includes Kindergarten and grades 4 - 8. High school students, grades 9 - 12, attend Butler High School -- a school which presently receives five school districts and is operating well over capacity.

A survey and analysis of the adequacy of the Borough's school plant was made in the fall of 1958 with the cooperation of the Kinnelon Board of Education and Superintendent of Schools. The capacity of each school is based on New Jersey State standards of optimum classroom size related to square footage. While a class size of 25 pupils (optimum) is considered desirable, 30 should be the absolute maximum for effective teaching at the elementary level. The maximum class size should be reduced whenever necessary, but never increased. Kindergarten and first grade should have an optimum class size of 20 and never exceed a maximum of 25.

## Stonybrook School

The Stonybrook School, a new building, is located on Boonton Avenue. One wing of the school was opened in 1957 and, in 1958, a second wing was put into operation. The structure is in excellent condition. The building houses 18 classrooms including a kindergarten. Special purpose rooms include a combined gymnasium-auditorium, a cafeteria, a science room, a music room, a library and an art room. In addition to these rooms there is an administrative office, a faculty room, a clinic and a supply room.

### Structure

Age: Built in 1957 and 1958.

Type Structure: Fireproof masonry.

No. Stories: One.

No. Classrooms: 18 (includes a kindergarten).

(Grades (1959): K and 4 - 8 (2 kindergarten-split sessions, 3 fourths, 3 fifths, 3 sixths, 4 sevenths, 3 eighths).

Enrollment(1959): 478

Capacity: Maximum - 565 (excluding 4 special purpose rooms)  
Optimum - 465 (excluding 4 special purpose rooms)

Deficiencies: School is operating above optimum capacity. Facilities for special studies including home economics and industrial arts are lacking.

### Site Area

Acreage: 12.0 acres.

Parking: Hard surface area; very adequate.

- Improvements:           (a) Landscaped.  
                          (b) Partially completed and equipped playfield  
                              which will be finished in 1959.

### Kiel Avenue School

The Kiel Avenue School is located on Kiel Avenue adjacent to the Borough Hall. The original structure was built in 1924. Two additions -- one in 1949 (including a boiler room, 3 classrooms and a nurse's office) and the other in 1953 (including a kindergarten and 6 classrooms) -- helped to create a modern school unit. In addition to a kindergarten and 11 classrooms, the building houses an administrative office, a faculty lounge, a health room and a staff workroom. The Board of Education also has an office in this building. The structure is in good condition, well maintained and adaptable for expansion.

### Structure

- Age:                        Built in 1924. (1st addition in 1949, 2nd addition and renovation in 1953).
- Type Structure:           Semi-fireproof.
- No. Stories:              Two.
- No. Classrooms:         11 plus a kindergarten.
- Grades (1959):           K-3 (2 kindergarten-split sessions, 4 firsts, 4 seconds, 3 thirds).
- Enrollment (1959):      353 (plus 28 Kindergarten pupils temporarily housed in firehouse).
- Capacity:                 Maximum - 360.  
                              Optimum - 295.
- Deficiencies:            Lacks special purpose rooms e. g. , a cafeteria, a gymnasium, a music room, etc. Lacks proper administrative offices. School is operating near maximum capacity. To meet present



enrollment school classroom facilities are supplemented in the Kiel Avenue firehouse.

Site Area

Acreage: 24.0 acres (irregular in shape, a major portion is isolated from the school).  
4.5 is the acreage of the original site.

Parking: Adequate

Improvements: (a) Original site is partially-landscaped.  
(b) Small asphalt play area. The remaining playfield area is graded, but rough.

TABLE XIV

DISTRIBUTION OF RESIDENT PUPILS, BY GRADES, 1950-1959  
KINNELON BOROUGH  
(Typical school day - October)

School Year	<u>Kiel Avenue School &amp; Stonybrook School</u>	<u>Butler High School</u>	
	<u>K - 8</u>	<u>9 - 12</u>	<u>K - 12</u>
1950-51	185	54	239
1951-52	250	58	308
1952-53	279	59	338
1953-54	313	74	387
1954-55	372	84	456
1955-56	458	116	564
1956-57	528	145	663
1957-58	605	179	784
1958-59	679	207	886
1959-60	859	231	1,090

Source: The School Plant Needs of Kinnelon, New Jersey, prepared by F. J. McCormick and H. J. Rissetto, April 1959.  
Superintendent of Schools

### Enrollment Trends

In order to determine Kinnelon's school plant needs, it is necessary, in addition to evaluating existing school facilities, to project the tentative distribution of future pupil enrollment. This means that efficient planning for a school system requires a knowledge of the approximate number of pupils who will have to be accommodated in specific years during the forecast period.

Elementary School. The total public elementary school enrollment in Kinnelon increased from 185 pupils in the 1950-51 school year to 859 pupils in the 1959-60 school year. This represents an average annual gain of about 75 students for the last 9 years. The largest gain occurred in the 1959-60 school year when 180 more pupils were registered than in the previous year.

High School. Kinnelon's high school students, grades 9-12, presently attend Butler High School. In 1950 resident high school enrollment totaled 54. Since 1950 resident high school enrollment has quadrupled. During the present school year, 1959-60, Butler High School is receiving 231 students from Kinnelon.

The Kinnelon Board of Education has been notified by the Butler Board of Education that Butler will discontinue its present high school sending-receiving arrangement starting in September 1962.

### Future Enrollments

With the announcement of the discontinuance of the use of high school facilities in Butler, Kinnelon is faced with a serious school facility problem. Not only must Kinnelon plan for high school facilities but, in addition, it must plan for additional elementary school facilities to house an expected elementary school enrollment increase.

Many variable factors such as the rate of residential development and in-migration, variations in natural population increases and the development of semi-public and private school facilities combine to make specific school enrollment projections for any given year difficult to forecast.

Therefore, the following assumptions have been made:

1. The rate of residential construction in Kinnelon will average between 70 and 95 units per year for the next 20 years.
2. By 1980 Kinnelon will have a population ranging between 9,000 and 11,000 persons.
3. The annual birth rate in Kinnelon will remain at approximately 18 births per 1,000 population.
4. Kinnelon's 1958 estimate of 0.87 public school children per dwelling unit will increase slightly during the next decade and then it is likely that it will decline to 0.8 children per dwelling unit by 1980. (This figure is consistent with ratios in other mature communities in North Jersey.)
5. Local parochial schools and private schools will continue to absorb approximately 20 per cent of Kinnelon's school-age population.

Before we turn to our estimate it must be emphasized that one variable in particular -- new residential development -- will determine the Borough's future school enrollment size. Any estimate given at this time for a long-range period must be checked and adjusted periodically during the interim against new residential construction trends. Three estimates for 1970 are given below; one recognizing the conservative estimate given in a report entitled School Plant Needs of Kinnelon, New Jersey prepared by F. J. McCormick and H. J. Rissetto; the other two based upon our estimated range of Kinnelon's future population.

In the report, School Plant Needs of Kinnelon, New Jersey, it is estimated that Kinnelon's 1970 population will reach 6,200. Anticipated enrollment for grades K-12 is estimated at 1,515. Based upon our estimate of an approximate population of 9,000 by 1980 and an average of 70 new residential units per year, Kinnelon's 1970 population would reach about 6,650 of which 1,546 would be public school children, grades K-12. If we assume that Kinnelon's population will reach 11,000 by 1980 and that there will be an average construction of about 95 new residential units per year, the Borough's 1970 population would approximate 7,740 persons. Public school enrollment would total about 1,805.

By 1980 it is estimated that Kinnelon will have a population ranging between 9,000 and 11,000 persons. It is further estimated that there will be between 2,570 and 3,140 occupied dwelling units, respectively. Assuming 0.8 school children per dwelling unit, Kinnelon's total public school enrollment could range between 2,055 and 2,510. If 70 per cent of all public school children are enrolled in grades K-8 there would be a possible K-8 enrollment of between 1,440 and 1,760 in 1980. The remaining 30 per cent, in grades 9-12, would number between 615 and 750.

### School Plan

The Kinnelon school plan proposes to expand the capacity of the existing school system by: 1) providing new facilities to satisfy the needs of the secondary school population, and 2) provide additional facilities to house an increasing elementary school population. Recommended sites for new school buildings are shown on the Master Plan Map. Any site intended for eventual school system expansion should be acquired well in advance of actual construction. All schools should be so designed as to permit expansion of facilities when needed and, in addition, school sites should be large enough to provide adequate outdoor play and parking areas.

### Short-Range Plan

Recognizing certain immediate needs, a short-range plan is recommended as follows:

New Secondary School. Kinnelon should plan immediately for a new secondary school. It is recommended that this school be located along Kiel Avenue in the vicinity of the present Kiel Avenue elementary school. The recent study prepared by the school consultants, F. J. McCormick and H. J. Risetto, indicated that this school should house 800 students. Completion of the construction of this school should be timed to permit occupancy by September 1962 -- the school year immediately following the termination of the sending arrangement with Butler High School. Initially this school might also accommodate elementary school pupils as well as secondary students. The population and school enrollment forecast indicates that with the addition of this proposed secondary school, Kinnelon will have adequate facilities to operate under optimum

conditions until about 1970. The forecast predicts a range of between 1,500 and 1,800 pupils by 1970. With the addition of an 800-pupil secondary school, Kinnelon will have adequate facilities to house an optimum enrollment of about 1,580.

#### Long-Range School Plan

Kinnelon will also need additional elementary school facilities before 1980. Based upon our population and school enrollment projections, these facilities will be in demand around 1970. Only by way of periodic checks on new construction trends in the future can a more definite date be arrived at.

1. ~~It is recommended that Kinnelon plan for the construction of a 2-kindergarten, 18-classroom elementary school with special purpose rooms, in Smoke Rise.~~ It is further recommended that this school be located as shown on the Master Plan Map, at the intersection of Longmeadow Road and Stone House Road.
2. It is recommended that an addition be made to the Kiel Avenue School building to make it a complete 2-kindergarten, 18 classroom building with special purpose facilities.

The proposed school facilities, in addition to those now existing, should be adequate to meet the anticipated enrollment demand in 1980.

It is recommended that Kinnelon plan for the construction of a 2-kindergarten, 18-classroom elementary school with special purpose rooms in Smoke Rise if and when the Smoke Rise streets become public. If said roads are not made public, then the school shall be located as close thereto as possible.

## PUBLIC BUILDINGS PLAN

### Borough Hall and Municipal Garage

The building housing the Borough Hall and Municipal Garage was built in 1956. It is located on a one-half acre site on Miller Street. Directly across Miller Street there is a Borough Hall parking area on a 100 by 125 foot lot.

The Borough Hall contains an office for the Borough Clerk and a council platform and auditorium. Space in the auditorium is utilized by the police department and health department.

The adjoining Municipal garage has space for four large vehicles and contains a small office and storage area.

The present Borough Hall is inadequate to meet the present needs of the community. There is some area on the eastern portion of the present site for expansion of the building. Any additional expansion, however, would be a problem because of the nearness of the adjoining Kiel Avenue School and nearby residential structures.

### Fire Department

Kinnelon's fire department operates under a voluntary system. There are three fire stations in the Borough - Fire House #1, located on Kiel Avenue and Miller Street, Fire House #2 on Boonton Avenue, and Fire House #3 in Smoke Rise. The locations of the existing stations provide good access to all points in the Borough. The firehouse service radius for low density residential and open areas, as prescribed by the National Board of Fire Underwriters, is 1-1/2 miles. Two areas in Kinnelon fall slightly outside this service radius. One is the northernmost section of Smoke Rise and the other is the southern end of Kiel Avenue in the vicinity of Lake Rickabear.

Fire House #1 in addition to housing two firefighting vehicles, is a community building containing an auditorium and stage, a kitchen and lavatory facilities. The original structure, the auditorium, was built in 1933 and is constructed of wood. The garages are constructed of masonry. The building is sound, although not completely fireproof and presently serves its function well.



The remaining two fire houses are essentially garages for the storage of vehicles and equipment. An additional garage is presently being added to Firehouse #2. Neither of these firehouses contain additional facilities such as lavatories or showers.

### Public Buildings Plan

The rapid growth of Kinnelon has created a need for an enlarged Borough Hall and new facilities which do not exist today. The following recommendations are made for the provision of adequate public buildings in Kinnelon:

#### 1. Borough Center Development

It is anticipated that the present Borough Hall site will not be adequate to meet the long-range needs of Kinnelon. Although the present building will have to be used for some time because of financial reasons, it is recommended that steps be taken to acquire a larger site for future use. From a planning and community standpoint it is desirable to have a civic center development as follows:

- In a central location which is easily accessible from all points in the Borough.
- In close proximity to the communities proposed central shopping area.
- On a site which can be developed with a full compliment of civic facilities and serve as a focal point of community pride and activity.

A site of approximately 10 acres located at the intersection of Stone House Road and Kiel Avenue would be ideal for the development of a Borough Civic Center. In this location it would have a central location in the Borough and it would form an extension of the proposed park development in the vicinity of the shopping center.

The proposed site is relatively flat and could be attractively developed with a Borough Hall, Borough Garage, library and possibly a post office. A unified architectural design for such a Borough Center would create an important focus of community pride.



## 2. Library

Kinnelon does not have a public library at present. Library service is now provided on a limited basis to various sections of the Borough by the Morris County Library Association's mobile unit.

In conjunction with the civic center development it is recommended that space be reserved for a separate library building or a wing of a new Borough Hall which would be designed for library use.

The National Library Association recommends 1 1/2 books per capita for communities of Kinnelon's size. Based on this standard Kinnelon should have about 6,000 volumes now and approximately 15,000 volumes by 1980.

## 3. Post Office

Kinnelon's residents now suffer considerable inconvenience by the lack of a post office. It is recommended that steps be taken to have the Post Office Department consider the establishment of a Post Office in Kinnelon. A Post Office building would be a valuable adjunct of the proposed Borough Center area.

The present policy of the Post Office Department is to take a long-term lease in a building which would be constructed for their use.

New Jersey Statutes allow a municipality to construct a Post Office building and to enter into a lease agreement with postal authorities. The financial merits of such an agreement might be investigated by the Borough.

## 4. Fire Houses

The present fire stations are well located and no additional stations will be necessary. In the future it will undoubtedly be necessary to provide additional apparatus, storage and meeting room space in Fire Stations No. 2 and No. 3.

Fire Station No. 1 is well located but the building it occupies will require replacement during the next twenty years. It is recommended that consideration be given to moving the facilities of Fire Station No. 1 to the Borough Hall and Garage when and if the present facilities are relocated in the proposed municipal civic area.

#### 5. Ambulance Unit

Kinnelon does not have any ambulance at present. In most communities ambulance units are operated on a voluntary basis. To protect the public health and safety it is recommended that consideration be given to establishing such a unit for the residents of Kinnelon.

## UTILITIES ANALYSIS

### Introduction

This section of the Master Plan presents a brief analysis of the adequacy of existing public utilities in Kinnelon to meet present and anticipated future needs. Recommendations are included for detailed engineering surveys and studies needed.

### Sanitary Sewerage Systems

There is no municipal sanitary sewerage system serving the Borough of Kinnelon at present. All sanitary wastes are disposed of by individual septic tanks except at Stonybrook School. A small treatment plant, effecting 95% removal, treats and disposes of the school's wastes.

Soil conditions throughout Kinnelon vary to the extent that in some locations, lots of 1.5 acres or more, cannot be built upon, due to lack of adequate soil for disposal areas. The depth of bedrock in the majority of the Borough varies from 0 to 2 feet, however, in some immediately adjacent areas this depth may extend to as much as 20 feet. Internal drainage is definitely impeded by strong profile developments. These facts were obtained from the Engineering Soil Survey of New Jersey, Report No. 9, Morris County, November, 1953. The shallow bedrock and the impedance of internal drainage accounts for the troubles encountered in locating suitable areas for septic tank disposal fields.

Water System. There is no municipal water system in the Borough. Individual wells are the primary source of supply to residents except for a small area along Kakeout Road served by the Butler Water Company and the Fayson Lakes community served by its own water system.

Recommendations. The protection of water supplies and distribution would be the basic function of a utility system. In Kinnelon, this could be accomplished in one of two ways or both. The first would be the development of a municipal water supply and/or a municipal distribution

system. Topography will limit the service areas to exclude the higher elevated sections such as Smoke Rise, but the danger of pollution of wells would be appreciably less throughout the Borough if the water supply was piped in.

The second method would be the provision of municipal sanitary sewers to carry the wastes to a treatment plant. Topography again might exclude certain areas, but these sections so served would be free from water pollution. Even though wells are drilled to a depth of 200' or more, the danger of septic tank effluents finding their way through to the water source is always present. Over a period of years the contamination could increase gradually from not being harmful to being extremely unsafe.

On the basis of the above it is recommended that:

1. An engineering study be conducted to locate a possible source of water for a municipal distribution system. This study should include the possibility of using existing sources such as the Newark, Boonton, Butler and Fayson Lakes supplies or establishing a separate reservoir and a cost comparison.
2. An engineering survey and study be conducted to formulate plans for installing a water distribution system in Kinnelon. Such a report should include findings on those areas in which it would not be feasible, economically and engineering-wise, to provide public water service.
3. An engineering survey and study be conducted to formulate plans for the installation of trunk and interceptor storm sewers that local developments could connect to. The present practice of dumping runoff on to the local streets and their ditches will tend to destroy the pavements over a period of time.

Federal loans are available from the Community Facilities Administration for all the above recommended studies. Such loans are not repayable until construction of the improvements is begun or not at all if construction is never started.

4. Future school construction include individual sewage treatment plants where municipal sewers are not available.

Fayson Lakes maintains three wells and distributes water through 2, 4 and 6 inch mains to its properties. In addition to the wells and mains, this development has a 15,000 gallon and a 125,000 gallon storage tank. The smaller tank is located along the southwest side of Cliff Trail and the larger is at the intersection of Cliff Trail and Ridge Trail.

The old water lines in Fayson Lakes are 2 and 4 inches in diameter. They were originally installed for summer use. These lines are smaller than those recommended by the National Board of Fire Underwriters and the American Water Works Association. Tests performed on these small lines, however, have resulted in flows of 380 gallons per minute which is more than the recommended flow of 200 gallons per minute.

Cases of pollution of individual wells have occurred to a limited extent in the Borough. Laundry detergents discharged through septic tanks were discovered in certain wells.

Treatment of well water has not been necessary and only in the Fayson Lakes development is it done. The New Jersey State Department of Health requires chlorination of the Fayson Lakes water supply as a precautionary measure only.

Storm Sewer System. There is no municipal storm sewer system in the Borough, but Kinnelon requires the installation of a drainage system in new developments. In many instances, the distance from a development to a natural drainage-way is so great, that is not economically feasible for the builder to carry the storm water that far. The result is that where a development has storm sewers, the run-off is emptied into the road ditches which are too small to carry it. In one location, a storm sewer is connected to a catch basin that does not lead to an outlet. When it rains, the water comes out of the catch basin instead of entering it.

Other Utilities. Electricity is supplied to Kinnelon by the Borough of Butler who buys it from the Jersey Central Power and Light Company. Butler transmits it over their lines to users in Kinnelon. The New Jersey Bell Telephone Company provides telephone service to the

Borough. There is no gas distribution system in Kinnelon and residents having appliances requiring this utility, use bottled gas. These three services have proved adequate in the past and it is expected that the service will so remain in the future.

It is recommended, however, that consideration be given to the possibility of Kinnelon buying its electricity directly from the Jersey Central Power and Light Company or Public Service.

Refuse Disposal. At the present time refuse disposal in Kinnelon is handled by a private contractor who makes two collections a week. Although this system is generally adequate, there is no assurance over a long period that efficient contractors will be serving the area. For this reason it is recommended that the Borough undertake a survey to consider alternative methods for refuse disposal. This study might weigh the merits of regional cooperation with respect to a land fill or incinerator operation, the possibility of a municipal refuse collection and disposal system or the continuation of the present contractual arrangements. The possible costs under each of the above or other alternatives would be revealed by such a study.

## PREVIOUS REPORTS

1. LAND USE	November 1958
2. PHYSICAL CHARACTERISTICS	March 1959
3. POPULATION TRENDS	April 1959
4. HOUSING ANALYSIS	April 1959
5. ECONOMIC ANALYSIS	April 1959
6. TRAFFIC ANALYSIS AND PLAN	April 1959
7. LAND USE PLAN	April 1959
8. PARKS AND PLAYGROUNDS	June 1959
9. PUBLIC SCHOOLS PLAN	June 1959
10. PUBLIC BUILDINGS PLAN	June 1959
11. UTILITIES ANALYSIS	June 1959
12. ANALYSIS OF BOROUGH FINANCES	November 1959
13. CAPITAL IMPROVEMENT PROGRAM	November 1959
14. REGULATORY CONTROLS	December 1959
15. ADOPTION OF MASTER PLAN	December 1959

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## FINANCIAL ANALYSIS AND CAPITAL IMPROVEMENTS PROGRAM

### INTRODUCTION

This portion of the Master Plan is divided into two sections. The first section contains an analysis of past and anticipated future trends of expenditures and revenues in Kinnelon. The second section contains a capital improvements program for carrying out the major community facility and traffic improvements proposed in the plan.

### FINANCIAL ANALYSIS

#### Expenditures

The cost of providing municipal, educational and county services in Kinnelon increased by \$546,176 or approximately 450 per cent between 1951 and 1958. In 1951 total costs per capita were approximately \$73. By 1958 per capita costs had climbed to \$174. Total costs per dwelling unit rose from \$252 in 1951 to \$652 in 1958.

Table XV shows the distribution of the major elements of expenditures between 1951 and 1958. In 1951 local purpose municipal expenditures comprised 38 per cent of total costs but decreased to only 28 per cent of total costs in 1958. School costs, however, increased from 49 per cent to 56 per cent of total costs during the same period. Kinnelon's payments to the County increased from 13 per cent in 1951 to 16 per cent of the Borough costs in 1958.

#### Local Purpose Expenditures

Between 1951 and 1958, expenditures to provide municipal services in Kinnelon increased from \$46,404 to \$188,183. This represents a 305 per cent increase during the seven-year period. During the same period Kinnelon's population increased by approximately 131 per cent. Some of the dollar increases can be attributed to population increases, inflationary trends and a higher level of services. Local purpose expenditures have, however, increased at a rate in excess of the rate of population growth.

Table XV

DISTRIBUTION OF EXPENDITURES, KINNELON, NEW JERSEY  
1951-1958

Year	<u>Local Purpose Expenditures</u>	<u>Taxes to Support School District</u>	<u>County Taxes</u>	<u>Total</u>
1951	46,404	58,646	15,906	120,956
1952	63,173	73,680	19,966	156,819
1953	81,589	84,150	25,019	190,758
1954	98,138	121,448	28,150	247,736
1955	98,427	145,505	36,066	279,998
1956	132,358	187,946	68,469	388,773
1957	184,081	263,206	89,354	536,641
1958	188,183	374,781	104,168	667,132

Source: Municipal Budgets

The major elements comprising local purpose expenditures are discussed below.

Operations. The major item of expenditure in Kinnelon is the direct operating cost of providing general government services, protection to persons and property, street maintenance, health protection and recreation.

Operating costs for these purposes have risen from \$29,320 in 1951 to \$86,636 in 1958. This represents an increase of nearly 195 per cent.

Municipal operations constituted about 63 per cent of local purpose expenditures in 1951 and 46 per cent in 1958. This decline in relative percentage results from increases in capital improvements and reserve for uncollected taxes which are also incorporated in the local purpose expenditure.

MUNICIPAL BUDGET ANALYSIS, KINNELON, NEW JERSEY

Table XVI

Year	Operations	Capital Imp.	Municipal Debt Service	Deferred Charges	General Appropriation for Municipal Purposes	Reserve for Uncol. Taxes	Total Municipal Purpose Expenditures	
1959	111,275	15,000	250	1,200	127,725	106,738	234,463	
<u>Expended</u>								
1958	86,636	19,250	-	4,276	110,162	78,021	188,183	
1957	76,786	31,015	10,089	748	118,638	65,443	184,081	
1956	62,905	10,000	-	10,534	83,439	48,919	132,358	
1955	49,205	8,600	-	4,149	61,954	36,473	98,427	
1954	41,245	18,750	7,521	-	67,516	30,622	98,138	
1953	38,380	2,000	10,233	-	50,613	30,976	81,589	
1952	35,474	2,000	12	4,697	42,183	20,990	63,173	
1951	29,320	500	57	448	30,325	16,079	46,404	

Source: Municipal Budgets

It is anticipated that operational expenses will continue to increase in accordance with recent trends. During the past several years the average annual increase in operational expenses has approximated \$11,000. A continuation of this trend would result in operational expenses of about \$164,000 by 1965.

Capital Improvements. Payments for capital improvements have varied from year to year. In 1951 only \$500 was spent for necessary capital improvements. Capital improvement expenditures in 1958 amounted to \$19,250. In 1959, \$15,000 was appropriated for the fund.

Annual payments of about \$20,000 to the capital improvements fund should be sufficient to provide the funds for undertaking the municipal capital improvements which may be undertaken in the next six years.

Debt Service Payments. Debt service payments to cover the annual payments for both principal and interest on municipal debt have varied from year to year. In 1958, there was no money expended for debt service payments. This is due to the fact that there was no outstanding municipal debt.

Debt service costs will be determined by future borrowing for proposed capital improvements. Because of excess school debt there are no major municipal capital improvements recommended at this time.

Deferred Charges. Miscellaneous expenses for charges from preceding years, retirement funds, etc. have varied from no annual payment to a high of \$10,534 in 1956. It is estimated that deferred charges will total less than \$5,000 per year through 1965.

Reserve for Uncollected Taxes. State statutes require municipalities to appropriate funds to offset deficits which would be created by tax delinquency. Since the municipality also collects county and school taxes, this procedure provides some assurance that sufficient funds will be available to cover municipal appropriations after school and county taxes are paid.

Appropriations to this reserve are related to past collection rates. Recent collection rates have been about 91 per cent. In 1951, this appropriation was only \$16,079; by 1958 the required reserve was \$78,021. The 1959 budget appropriates \$106,738 (Based on estimated 85% of tax collection).

It is estimated that the required reserve will increase to about \$150,000 by 1965.

#### Summary of Municipal Purpose Expenditures

Total local purpose expenditures are expected to increase from \$188,183 in 1958 to about \$339,000 by 1965. The estimated distribution of these expenditures is as follows:

	<u>Amount</u>	<u>Per cent</u>
Operations	\$164,000	48
Capital Improvements	20,000	6
Debt Service	-	-
Deferred Charges	5,000	2
Reserve for Uncollected Taxes	150,000	44
Total	<u>\$339,000</u>	<u>100</u>

#### Educational Expenditures

School costs, as measured in terms of local taxes required to support the school function, have been rising steadily at a relatively rapid rate. From 1951 through 1958 school costs have accounted for approximately one-half of the Borough's total budget.

The cost of providing for the education of Kinnelon's pupils has increased from \$58,646 in 1951 to \$374,781 in 1958. This represents an average annual increase of about \$45,000 over this seven year period. More recent increases, however, over the past two years have averaged \$93,000. If this trend continues, and if enrollments reach between 1,400 and 1,500 students by 1965, school costs will rise from their 1958 level of \$374,781 to between \$700,000 - \$750,000 by 1965.

These estimated costs do not include increased debt service payments which will be required to support proposed school improvements. They will be more fully discussed in the Capital Improvements Program.

### County Expenditures

County taxes paid by Kinnelon have risen steadily from about \$16,000 in 1951 to \$104,000 in 1958. Estimated county taxes for 1959 totaled \$120,000. This represents an average annual increase of about \$13,000 per year. It is anticipated that the past rates of increase will be maintained and that by 1965 Kinnelon's share of county taxes will approach \$198,000.

### Summary of Total Expenditures

Costs in Kinnelon have been rising quite steadily in recent years. This is due to such factors as population growth, increased municipal services and costs, and devaluation of the dollar. The only conclusion that can be made from the preceding analysis is that municipal, school and county costs will continue to increase. The total costs for these services in 1965, exclusive of increased debt service costs for proposed school capital improvements, is estimated at \$1,287,000. Debt service for proposed school improvements is discussed in the Capital improvements program.

### Revenues

The primary source for revenues to meet the costs of providing municipal, educational and county services in Kinnelon is the ad valorem tax on real and personal property. During recent years property tax revenues have contributed about 82 per cent of the Borough's total revenues. Miscellaneous sources such as receipts from fees, franchise taxes, gross receipts taxes, etc. and from the appropriation of surplus have provided the remaining 18 per cent.

It is anticipated that this ratio will be maintained through 1965. Revenue trends between 1951 and 1958 are shown in Table XVII on the following page.

Table XVII

DISTRIBUTION OF REVENUES, KINNELON, NEW JERSEY

<u>Year</u>	<u>Current Taxes</u>	<u>Delinquent Taxes</u>	<u>Surplus Revenue Appropriation</u>	<u>Misc. Revenues</u>	<u>Total</u>
1951	90,021	7,124	16,000	14,423	127,568
1952	109,777	7,733	18,000	16,870	152,380
1953	138,063	15,431	15,000	20,022	188,516
1954	169,978	22,436	24,000	38,458	254,872
1955	205,184	17,298	37,000	28,942	288,424
1956	292,118	14,880	47,000	34,654	388,652
1957	418,088	28,812	45,000	47,910	539,810
1958	513,554	29,051	67,357	46,759	656,721

Source: Municipal Budgets



## CAPITAL IMPROVEMENTS PROGRAM

The preceding sections of the Master Plan recommend a number of public improvements which will be needed over the next twenty years. It is estimated that the total cost of these improvements, exclusive of financing expenses, is \$5,515,000. The major elements of these costs are as follows:

Public Schools . . . . .	\$4,750,000
Recreation . . . . .	225,000
Public Building . . . . .	370,000
Traffic . . . . .	<u>170,000</u>
Total	\$5,515,000

Since the amounts of money involved are relatively large, it is important that these improvements be carefully scheduled in order to safeguard the financial stability of the Borough. This is accomplished in many municipalities through the use of a six-year capital improvements program.

This program consists of a schedule of improvements to be constructed during a period of six years in the future, arranged by estimated cost and priority of construction so as to come within the municipality's financial capacity. Each year the capital improvements program is reviewed and the proposals for the current year are adopted as a part of the municipal budget. Annual review of the program is required in order to make any adjustments necessitated by changes in the municipality's needs and financial capacity as well as to project the program forward for an additional year. In this manner the six-year program is projected eventually to include all the improvements proposed in the Master Plan.

### Proposed Capital Improvements

Capital improvements, as the term is used in this plan, include those improvements which have a life expectancy of more than five years and which may be financed by bonds under State Statutes.

A descriptive listing of the major capital improvements proposed in the Master Plan, including the estimated costs for construction and land acquisition where necessary, follows. Costs are estimated on the basis of current dollar values and, depending on when these improvements are undertaken, actual costs may be higher if the value of the dollar declines. The estimated costs for school construction were furnished by the Board of Education.

1. Traffic Improvements

a. Realignment and widening of Kakeout Road. (It is assumed that a cooperative agreement will be made between Butler and Kinnelon to implement this improvement and that Butler will defray a proportionate part of the over-all cost.)	\$ 70,000
b. Street widening program (annual appropriation of about \$5,000 to be coupled with State Road Aid formula as it applies).	<u>100,000</u>
Total Estimated Cost	\$ 170,000

2. Public Buildings

a. A new Borough Hall and Garage as part of a Municipal Center located in the general area north of Kiel Avenue and Fayson Lakes Road.	\$ 250,000
b. A new Public Library in the Municipal Center on a site with the Borough Hall.	<u>120,000</u>
Total Estimated Cost	\$ 370,000

3. School Buildings

a. New Secondary School along Kiel Avenue.	\$3,250,000
b. Expansion of the Kiel Avenue School.	500,000
c. New Elementary School.	<u>1,000,000</u>
Total Estimated Cost	\$4,750,000

#### 4. Parks and Playgrounds

a. Development of a park and improvement of the pond in the proposed Borough Center.	\$ 125,000
b. Playground development program (annual appropriation of about \$5,000 to enlarge and improve playground facilities.	<u>100,000</u>
Total Estimated Costs	\$ 225,000

#### Borrowing Capacity

Under New Jersey Statutes the debt which a municipality can incur without special permission from the Division of Local Government is limited to a percentage of the average assessments of real ratables (land, improvements and 2nd class railroads) for the past three years. Kinnelon's average for 1956, 1957 and 1958 was \$3,679,745.

Municipal purpose debt is limited to 7 per cent of the above average or \$257,582.

School debt is limited to 6 per cent of this average where there is no high school and 8 per cent where there is a high school. Kinnelon's present school debt limit is therefore 6 per cent or \$220,785. Under the Statutes, however, excess school debt can be charged against the municipal purpose debt capacity.

Water, sewer and other self-liquidating utility debt is not subject to statutory limitations. Where a utility operates with a deficit, however, the deficit capitalized at 5 per cent is charged against the municipal purpose debt.

#### 1. School Purpose Debt

As of December 31, 1958, Kinnelon's school system has a gross debt of \$1,029,000. This school debt exceeded the statutory school debt limit by \$808,415 which obliged the Borough to utilize the statutory provision permitting school bond debt in excess of the statutory limitation to be charged against the municipal purpose debt.

The future statutory school debt limit in Kinnelon will increase to 8 per cent because of the construction of a new local high school.

## 2. Municipal Purpose Debt

As of December 31, 1958, Kinnelon did not have any outstanding municipal purpose bonds. The school debt, however, was charged against the statutory municipal debt limit of \$257,582 (7 per cent of average assessed valuation of real property). The Borough's total combined debt, therefore, exceeds the statutory debt limit by \$550,833.

## 3. Debt in Excess of Limitations

New Jersey Statutes provide that a municipality can exceed its debt limitations subject to the approval of the State Division of Local Government. The following provisions of the Statutes can be utilized to permit Kinnelon to exceed its present debt limit:

- a. Paragraph 40:1-16 (c) permits the issuance of bonds in excess of the debt limit which are required to finance improvements which are necessary for the health, safety, welfare or convenience or betterment of the inhabitants of a municipality.
- b. Paragraph 40:1-16 (d) permits a municipality to incur additional indebtedness on the basis of annual retirement of the outstanding debt. Kinnelon's accumulated borrowing power under this section as of December 31, 1958, was \$3,869.54.

It should be noted here that the present debt limit may be increased as a result of the re-evaluation program now underway. It is contemplated that the present ratio of true value to assessed value will be increased thus increasing total Borough assessments. The figures presented here should be adjusted when the re-evaluation is completed.

## Debt Retirement

Debt service payments cover the annual payments for both principal and interest on the Borough's outstanding municipal and school bonds. Table XVIII shows the debt retirement schedule for Kinnelon's

Table XVIII

PRESENT DEBT RETIREMENT SCHEDULE  
 SCHOOL BONDS  
 KINNELON BOROUGH

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<u>Year</u>	<u>Outstanding Debt*</u>	<u>Debt Service</u>
1958	1,029,200	
1959	943,200	123,501
1960	882,200	95,390
1961	821,200	93,217
1962	760,200	91,043
1963	704,200	88,870
1964	648,200	81,866
1965	592,200	79,863
1966	536,200	77,859
1967	480,200	75,856
1968	425,000	73,052
1969	370,000	70,868
1970	320,000	63,823
1971	270,000	61,965
1972	220,000	60,108
1973	175,000	53,250
1974	125,000	56,563
1975	75,000	54,688
1976	50,000	27,813
1977	25,000	26,875
1978	-	25,938

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\* Outstanding School Debt as of December 31st of year.

Table XIX

DEBT RETIREMENT SCHEDULE ASSUMING ISSUANCE  
OF NEW SECONDARY SCHOOL BOND\*

KINNELON BOROUGH

<u>Year</u>	<u>Outstanding Debt**</u>	<u>Debt Service</u>
1958	1,029,200	
1959	943,200	123,501
1960	882,200	95,390
1961	2,801,200	93,217
1962	2,655,200	275,143
1963	2,514,200	259,145
1964	2,373,200	248,316
1965	2,232,200	242,488
1966	2,091,200	236,659
1967	1,950,200	230,831
1968	1,790,000	244,202
1969	1,630,000	237,293
1970	1,475,000	225,523
1971	1,320,000	218,940
1972	1,165,000	212,358
1973	1,015,000	200,775
1974	860,000	199,363
1975	705,000	192,762
1976	575,000	161,163
1977	445,000	155,500
1978	315,000	149,838
1979	210,000	119,175
1980	105,000	114,450
1981	-	109,725

\* Assuming a \$1,980,000 bond issue for a new secondary school (20-year serial bond bearing an interest rate of 4.5 per cent).

\*\* Outstanding as of December 31st of year.

outstanding school bonds. The outstanding debt as of December 31, 1959, totaled \$943,200. Assuming that no additional bonds are issued, this debt would gradually decline to \$592,200 by 1965, \$320,000 by 1970, \$75,000 by 1975 and be completely retired by 1978.

Kinnelon, however, is contemplating the construction of a new secondary school to be financed by serial bonds. The first phase of construction will require a bond issue of approximately \$1,980,000. For the purpose of the present discussion, it is assumed that this authorization will be financed beginning in 1961 by the issuance of 20-year serial bonds bearing an interest rate of 4.5 per cent. As shown in Table XIX the issuance of this new bond in 1961 will increase the total debt to \$2,801,200. The new debt would gradually decline to \$2,232,200 by 1965, \$1,475,000 by 1970, \$705,000 by 1975 and retire in 1981.

Debt service on this debt (principal and interest payments) will approximate \$275,143 in 1962 and gradually decrease thereafter until the final payment is made in 1981.

Most investment experts consider that debt service payments on school and municipal bonds should not exceed 25 per cent of the sum total of the annual budget appropriation and local district school tax. In 1959 these appropriations totaled \$709,826 and debt service payments totaled \$123,501. The present ratio, therefore, approximates 17 per cent.

Once the contemplated secondary school bond is issued, however, annual debt service payments will increase as indicated previously. Annual budget appropriations and district school taxes will also increase but at a lesser rate. As a result it is estimated that in 1962 debt service payments will approximate 25 per cent of the total annual budget appropriation and local district school tax.

The magnitude of debt service payments for existing and proposed school debt will limit the municipal improvements which can be undertaken through bond issues within the next six years.

#### Six-Year Capital Improvements Program

The Borough of Kinnelon could not possibly undertake the proposed \$5,515,000 Capital Improvements Program within six years. In fact,



it may take longer than the 20-year period encompassed by this Master Plan. As it is unrealistic to determine, with sufficient accuracy, the financial capacity of the Borough beyond the next 5 or 6 years, recommendations for an annual schedule of improvements are limited to 1960 through 1965. In Kinnelon, educational requirements during the six-year period will be of such magnitude that major municipal improvements will have to be deferred until after 1965. The acquisition of land for these facilities, however, should begin prior to that date.

#### Method of Financing

Aside from the issuance of the initial serial bonds for the new secondary school, there are no additional bond issues recommended during the six-year period between 1960 and 1965. Rather, it is proposed that some of the less costly municipal, recreation and street improvements be undertaken on a pay-as-you-go basis as shown on the schedule presented in Table XX. Basically, with the exception of streets this involves the establishment of cash funds for land acquisition during the early stages of this program. Improvement costs can be financed after the necessary lands are acquired and once Kinnelon's financial capabilities improve.

Table XX

RECOMMENDED SIX-YEAR CAPITAL IMPROVEMENT PROGRAM\*  
 KINNELON BOROUGH, 1960-1965  
 (dollars in thousands)

Project	Financing Method		1960	1961	1962	1963	1964	1965
	Bonds	Cash						
New Secondary School	x			1,980				
Municipal Center Land Acquisition		x	10	5				
Park and Playground Development Fund (incl. acquisition of land for Borough Center Park)		x	5	-	5	10	15	15
Street Improvements Fund		x	5	5	5	5	5	5

\*ANNUAL REVIEW OF THE PROGRAM IS REQUIRED IN ORDER TO MAKE ANY ADJUSTMENTS NECESSITATED BY CHANGES IN THE MUNICIPALITY'S NEEDS AND FINANCIAL CAPACITY AS WELL AS TO PROJECT THE PROGRAM FORWARD FOR AN ADDITIONAL YEAR.

## REGULATORY CONTROLS

### Introduction

The Master Plan is concerned with the general improvement of the living environment in Kinnelon. This objective, however, will not be necessarily accomplished by the adoption of the Master Plan. Indeed, many of the proposals in the Plan can only be effectuated through the enforcement of codes and regulatory controls which relate to land use, construction, housing and sanitation.

The Borough already has a number of the codes and ordinances necessary for its controlled and orderly development. The provisions contained in these regulations are generally good. Some of the existing controls, however, require revisions and several additional controls should be adopted.

### Building Code

In 1957 Kinnelon adopted by reference the Abbreviated Edition of the 1955 National Building Code recommended by the National Board of Fire Underwriters. The Code prescribes regulations governing the construction, alteration, equipment, use and occupancy, location and maintenance, moving and demolition of buildings and structures. In addition, at the time of adoption the Borough made several amendments and supplements to the Code to conform with local conditions. It is suggested that the National Building Code be reviewed periodically in order that it be kept up-to-date.

### Plumbing Code

At the present time Kinnelon does not have a Plumbing Code. The Building Code specifies that plumbing and drainage systems of a building or structure should be installed to meet generally accepted good practice. Because of the vagueness and inadequacy of this control

it is suggested that a standard code such as the "Plumbing Code of New Jersey" prepared by the New Jersey State Department of Health, be adopted.

#### Electrical Code

Kinnelon does not have an Electrical Code. It is suggested that the National Electrical Code recommended by the National Board of Fire Underwriters be adopted by reference.

#### Fire Prevention Code

The Borough does not have a Fire Prevention Code. Again, it is suggested that a standard code such as the National Fire Prevention Code be adopted. The adoption and enforcement of this Code, as well as all the aforementioned codes, is important to the safety of local residents, particularly in areas where summer cottages have been converted to year-round occupancy.

#### Soil Removal Ordinance

It is recommended that Kinnelon adopt a Soil Removal Ordinance controlling the removal of topsoil and excavation of earth and rock. The unregulated and uncontrolled excavation and removal of soil and rock has resulted in the creation of nuisance and hazard conditions in many communities. The Borough's Subdivision Ordinance controls soil removal with respect to subdivisions, however, a more inclusive code is needed where subdivisions are not involved.

#### Sanitary Code

The Board of Health adopted the "Sanitary Code of the Borough of Kinnelon" in 1950 and to date it has been amended several times. State health codes pertaining to swimming pools, water supplies and sewage disposal systems have been adopted.

A map showing the approximate locations of data to be shown on an official map is presented on the following page. This map is to be used as a guide by the Borough Engineer in preparing an "Official Map" under his signature, showing detailed street widths and other information which require engineering surveys.

When an official map is adopted, the zoning ordinance should be amended to require that all building setbacks be measured from right-of-way lines shown on the official map.

### Zoning Ordinance

The Borough's Zoning Ordinance and Map was adopted in 1954 and amended several times thereafter. The most recent zoning amendment involved the upgrading of residential zones to a minimum lot size of one acre throughout the Borough.

Zoning is an extension of the municipality's police power to protect public health, safety and welfare. Its regulations apply to the use of land and such conditions as building height, land coverage, lot sizes, population density, setbacks and off-street parking and loading.

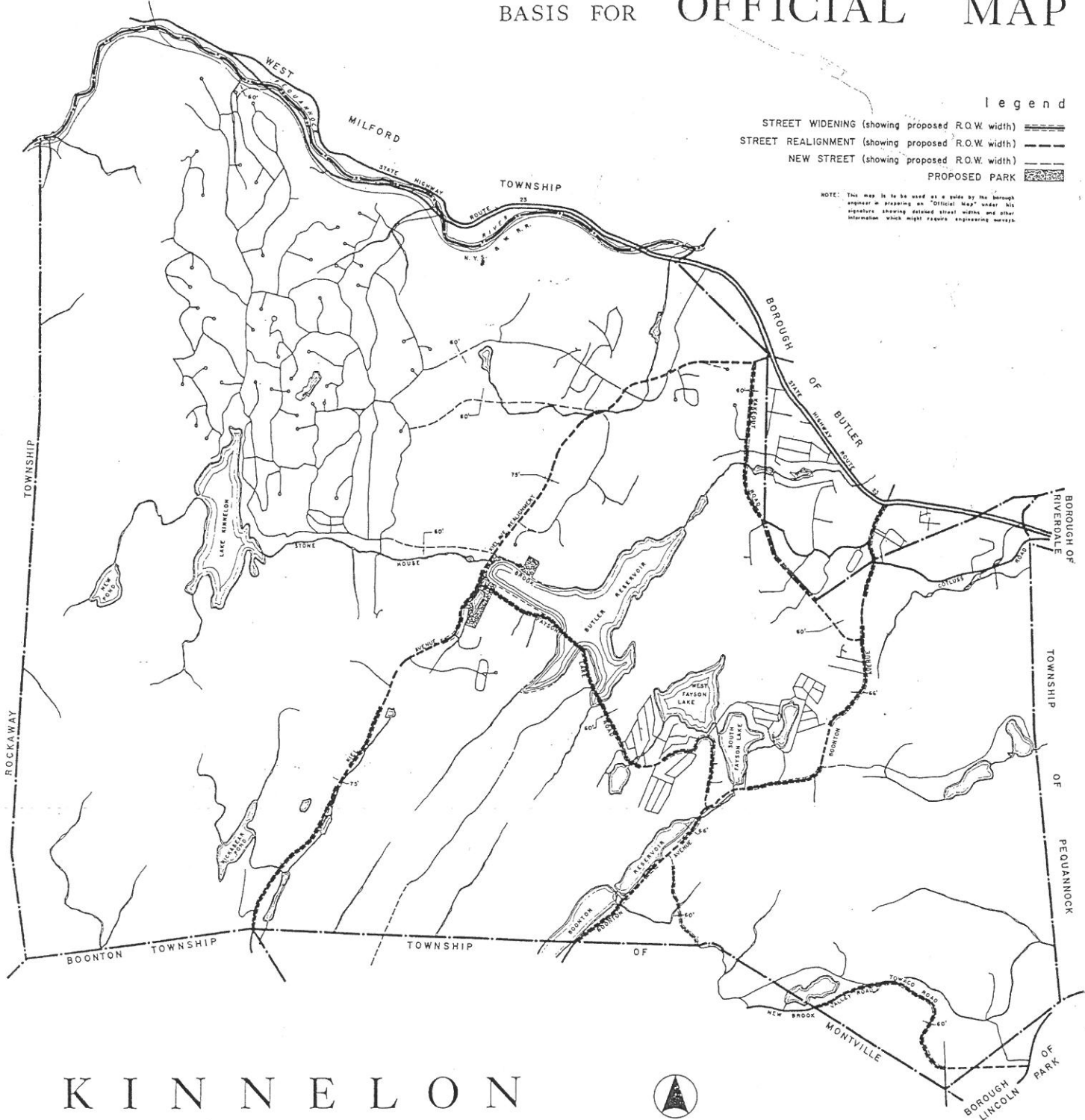
The technical aspects of the existing Ordinance and its general approach to the regulation of future development are good. Revision and rewriting will be required, however, in both the Zoning Ordinance and Map in order to reflect the various land use proposals of the Master Plan.

The recommended changes are as follows:

#### 1. Revision of Zoning Map

The Master Plan foresees how the entire Borough might be developed in twenty years. In effect it is a long-range general guide for future development. A zoning map on the other hand is a legal instrument which is designed to control land use development for shorter periods. The zoning map should, therefore, be revised to generally reflect development patterns which can reasonably be expected during the next five or six years. From time to time the map should be reviewed in light of development trends and the long-range land use objectives of the Borough.

# BASIS FOR OFFICIAL MAP



**Legend**

STREET WIDENING (showing proposed R.O.W. width)

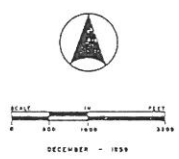
STREET REALIGNMENT (showing proposed R.O.W. width)

NEW STREET (showing proposed R.O.W. width)

PROPOSED PARK

**NOTE:** This map is to be used as a guide by the borough engineer in preparing an "Official Map" under his signature showing detailed street widths and other information which might require engineering surveys.

**K I N N E L O N**  
 MORRIS COUNTY, NEW JERSEY  
 KINNELOON PLANNING BOARD  
 I. CANDEUB & ASSOCIATES CONSULTANTS



THE PREPARATION OF THIS MAP WAS FINANCED IN PART THROUGH AN URBAN PLANNING GRANT FROM THE HOUSING AND HOME FINANCE AGENCY, UNDER THE PROVISIONS OF SECTION 101 OF THE HOUSING ACT OF 1949 AS AMENDED. THE HOUSING ACT HAS BEEN AMENDED BY LOCAL ACTS AND BY AN AMENDMENT OF THE STATE OF NEW JERSEY AS PART OF THE STIMULUS STATE AND FEDERAL PLANNING PROGRAM.

It is recommended that the proposals of the Land Use Plan be incorporated in a revised zoning map for the Borough. It is possible that the market demand for several of the proposed commercial and industrial sites is such that development will not occur for some time in the future. Because of the limited area in Kinnelon which is suitable for tax producing property, it is recommended that every effort be made to insure development in accordance with the plan.

In the areas proposed for planned commercial or industrial use, it is recommended that residential development be prohibited. In these zones, however, open commercial, educational or recreational or agricultural uses should be allowed. These open uses can readily be replaced by a more intensive use at a later date.

To substantiate such zoning the Borough should initiate a program to attract business and industry to the community. Kinnelon's residents include many prominent industrialists and businessmen who could render a valuable service to their community in such a program.

A number of municipalities throughout the country are investigating the possibility of purchasing development rights for a period of time to preserve the open character of areas which are subject to premature development. The property owner is rewarded by not having to pay a tax on property which has an inflated development value. The municipality's tax base is benefited by retaining its land in large holdings which generally require limited service. State enabling legislation would be necessary to use the development right procedure to reserve land in Kinnelon for future restricted development. This procedure could also be applied to some of the Borough's large estates which might otherwise be cut up for home construction to meet increased tax costs.

## 2. Revision of Zoning Ordinance

A number of revisions in the text of the Zoning Ordinance will also be necessary to effectuate the various proposals of the plan. Detailed recommendations for revision were contained in Planning Memorandum No. 14 which was submitted to the Planning Board in December 1959. The major revisions are summarized below:

a. A-1.5 Residence District. For the reasons outlined previously



in the Land Use Plan, it is recommended that all residentially zoned districts, with the exception of the Fayson Lakes area formerly defined as the B-2 Residence District, be zoned as a 1.5 Acre One-Family Residence District herein termed "A-1.5 Residence District" and be subject to the following regulations:

The minimum lot size shall be 1.5 acres, except in the case of a subdivision involving 3 or more lots, where the size of any lot may be reduced to not less than 1 acre provided that the resulting average lot size in the subdivision shall be not less than 1.5 acres. For the purpose of computing the average lot size, no lot shall be considered to have an area of more than 3 acres. Any lot or lots of 3 acres or more which are used in computing the above average may be re-subdivided provided that no portion of the lots used in computing the above average shall be so reduced in area as to create an average lot size of less than 1.5 acres for the original subdivision.

- b. Business Districts. In the Land Use Plan it is recommended that certain areas in Kinnelon be designated for business use and be further divided into the following classifications subject to specific use and building regulations:

- B-1, Neighborhood Business District
- B-2, Community Business District
- B-3, Highway Business District.

These controls are essential in order to insure orderly and harmonious development; to protect adjacent residential districts by restricting the types of business use; to regulate the intensity of business concentration; to satisfy the needs of modern business development; and to promote the most desirable land uses in accordance with a well-considered plan.

The controls governing the aforementioned business districts are summarized as follows:

- 1) B-1 District (Neighborhood Business District)

Permitted Uses - Local retail business or personal service establishments, such as grocery, drug and hardware stores,

meat or fruit markets, barber or beauty shops, shoe repair shops, laundry or dry cleaning establishments where no laundering or cleaning is to be done on the premises; business and professional offices and the like, supplying commodities or performing services for residents of the neighborhood.

Minimum Lot Frontage - 300 feet for a single use or a group of uses in a single development.

Minimum Lot Size - 3 acres.

Maximum Lot Coverage - 25 per cent for principal and accessory structures combined.

Maximum Building Height - 2 stories or 30 feet for principal building; 1-1/2 stories or 15 feet for accessory building.

Front Yards - 25 feet from right-of-way, except 75 feet when located across from a residential district -- parking and loading permitted not less than 25 feet from right-of-way or property line. The 25-foot border shall be landscaped with hedge, evergreens, shrubbery, or other suitable planting or screening.

Rear Yards - same as provided in adjoining Residence District.

Side Yards - 25 feet.

2) B-2 District (Community Business District)

Permitted Uses - Uses permitted in the B-1 District, department stores, banks, variety stores, gift shops, restaurants, professional, business and technical schools, medical and dental offices and testing laboratories, amusement enterprises including theaters, bowling alleys and skating arenas, and other similar uses.

Minimum Lot Frontage - 500 feet for a single use or a group of uses in a single development.

Minimum Lot Size - 5 acres.

Maximum Lot Coverage - 25 per cent for principal and accessory structures combined.

Maximum Building Height - 3 stories or 45 feet for principal building; 1-1/2 stories or 15 feet for accessory building.

Front Yards - same as B-1 District.

Rear Yards - same as provided in adjoining Residence District.

Side Yards - 25 feet.

3) B-3 District (Highway Business District)

Permitted Uses - Gas stations, restaurants, hotels, motels, nurseries, greenhouses, fruit stands, antique shops, semi-public organizations, animal hospitals, suburban office buildings and other uses of the same general character.

Minimum Lot Frontage - optional.

Minimum Lot Size - optional.

Maximum Lot Coverage - 40 per cent for principal and accessory structures combined.

Maximum Building Height - 35 feet.

Front Yards - 50 feet.

Rear Yards - 30 feet.

Side Yards - 30 feet.

- c. Planned Industrial Park District (P-I District). Two specific areas have been recommended in the Land Use Plan for planned (restricted) industrial park development in Kinnelon. A planned industrial park district is an industrial subdivision developed according to a comprehensive plan to provide serviced sites for high-type industries, research laboratories, offices and other

similar uses. The district must provide for adequate control of the tract and buildings (through restrictive covenants or adequate zoning) with a view to maintaining aesthetic values in the district, protect the investments of both developers and occupants and promote harmonious integration into the neighborhood.

Planned Industrial Park Districts are established for the development of integrated areas so located and designed as to constitute a harmonious and appropriate part of the physical development of the Borough; contribute to the soundness of the economic base of the Borough; provide protection to adjacent residential areas; allocate space for industry desiring open space and park-like surroundings free from encroachment of residential uses, commercial establishments or industries not able to conform to the regulations of the Planned Industrial Park District. A summary of the uses and controls for the proposed P-I District in Kinnelon are as follows:

Permitted Uses - Light industry or business of a kindred nature engaged in manufacture; assembling or packaging of products; warehousing of products; and professional, personal or commercial services.

Prohibited Uses - In such districts no noxious, offensive or hazardous trade or activity shall be carried on. No building shall be erected or altered which is designed to be used in whole or in part for any process or use which may be or become by reason of excessive emission of dust, smoke, odors, fumes, gases, noise, industrial wastes or vibration, a nuisance or hazard to the health or safety of residents of the Borough of Kinnelon or to the use or occupants of surrounding buildings.

Minimum Lot Frontage - 200 feet for a single use or a group of uses in a single development.

Minimum Lot Size - 2 acres.

Maximum Lot Coverage - 40 per cent for principal and accessory structures combined.

Maximum Building Height - 2 stories or 40 feet.

Building Setbacks - No building or buildings shall be erected, altered or used within this district within 50 feet of an adjoining property line or within 50 feet of any street line, except for drives and walks, the front yard shall be planted in grass and suitably landscaped.

Parking - One off-street parking space for every 3 employees of the combined major and second shifts. If such parking area is outdoors it shall be paved with an asphalt, concrete or equivalent paving material so as to prevent dust and dirt in the vicinity. No parking area shall be used for any purpose other than the accessory parking of automobiles or other vehicles. No parking area shall be nearer than 5 feet to the property line, except where said property line adjoins residential zone, in which event no parking shall be permitted within fifty (50) feet of said property line.

Loading Facilities - Off-street loading and unloading facilities shall be provided for each establishment. No loading docks will be permitted on any street frontage. Provision for handling of all freight shall be on those sides or rear of any building or buildings which do not face on any street or proposed street.

Landscaping - There shall be provided a buffer yard of not less than one hundred and fifty (150) feet in width along any Residence District or Borough boundary line. This required yard shall be measured from the boundary line, or from the street line where a street constitutes the boundary. The fifty (50) feet of such yard space nearest the district or Borough boundary line shall be used as a planting strip, on which shall be placed hedge, evergreens, shrubbery, or other suitable planting or screening. The remaining one hundred (100) feet of space may be used for off-street parking or for any permitted purpose other than a building or permanent structure, or any processing activity.

- d. Performance Standards. It is recommended that the uses permitted in the Planned Industrial Park District be subject to control by performance standards rather than through the use of long lists of permitted and/or prohibited uses. This method enables potential nuisances to be measured factually and objectively in terms of the nuisance itself and protects any manufacturing use from arbitrary exclusion based solely on the nuisance which may have characterized production process in the past.

The application, regulation and enforcement of performance standards insures that no land or building within a P-I District shall be operated in such a manner so as to create any dangerous, injurious, noxious or otherwise objectionable fire, explosive or other hazard; noise or vibration, smoke, dust, dirt or other form of air pollution; electrical or other disturbance; glare; or other substance, condition or element in such amount as to adversely affect the surrounding area or premises.

- e. Off-Street Parking. It is recommended that in all districts, in connection with every business, institutional, recreational, residential or any other use, there shall be provided, at the time any building or structure is erected or is enlarged or increased in capacity, off-street parking spaces open to the public at no charge for automobiles in accordance with the requirements set forth in Table XXI.

Each off-street parking space shall have an area of not less than one hundred eighty (180) square feet exclusive of access drives or aisles, and shall be of usable shape and condition. Except in the case of dwellings, no parking area provided shall contain less than three (3) spaces.

All permitted and required accessory off-street parking spaces, open or enclosed, shall be located on the same zone lot as the use to which such spaces are accessory, except that such spaces may be provided elsewhere but shall be provided within a radius of no greater distance than 250 feet from that zone lot, and provided further, that required spaces are provided off the site in accordance with the provisions set forth herein and that such spaces shall be in the same ownership as the use to which they are accessory and shall be subject to deed restrictions filed in an office of record, binding the owner and his heirs and/or assigns to maintain the required number of spaces available throughout the life of such use, and such spaces shall conform to all regulations of the district in which they are located.

Table XXI

<u>Uses</u>	<u>Required Parking Spaces</u>
Churches & Schools	- 1 for each 3.5 seats in an auditorium or 1 for each 17 classroom seats; whichever is greater.
Community Buildings & Social Halls	- 1 for each 200 sq. ft. of floor area.
Country Clubs, Golf Courses	- 1 for each 200 sq. ft. of floor area occupied by all principal and accessory structures, except those used for parking purposes.
Dwellings, Motels	- 1 for each family or dwelling unit.
Funeral Homes, Mortuaries	- 10 for each parlor.
Hospitals, Nursing & Convalescing Homes	- 1 for each 3 beds plus 1 for each employee.
Hotels, Rooming Houses & Dormitories	- 1 for each 2 bedrooms.
Medical or Dental Clinics, or Offices	- 3 spaces for each doctor or dentist.
Restaurants, Beer Parlors & Night Clubs	- 1 for each 2.5 seats.
Retail Stores, Store Groups, Shops, etc. in a B-District	- 1 for each 300 sq. ft. of floor area where the floor area shall exceed 1,000 sq. ft.



f. Off-Street Loading. It is recommended that in any district, in connection with every building or building group or part thereof hereafter erected and having a gross floor area of ten thousand (10,000) square feet or more, which is to be occupied by manufacturing or commercial uses or distribution by vehicles of material or merchandise, there shall be provided and maintained on the same zone lot with such building, off-street loading berths in accordance with the requirements in Table XXII following.

Table XXII

<u>Uses</u>	<u>Square Feet of Floor Area</u>	<u>Required Off-Street Loading Berths</u>
Schools	15,000 or more	1
Hospitals (in addition to space for ambulances)	From 10,000 - 30,000	1
	For each additional 30,000 or major fraction thereof	1 additional
Undertakers & Funeral Parlors	5,000	1
	For each additional 5,000 or major fraction thereof	1 additional
Hotels & Offices	From 10,000 or more	1
Retail, Commercial, Manufacturing & Miscellaneous	From 10,000 - 25,000	1
	From 25,000 - 40,000	2
	From 40,000 - 60,000	3
	From 60,000 - 100,000	4
	For each additional 50,000 or major fraction thereof	1 additional

Each loading space shall be not less than ten (10) feet in width, twenty-five (25) feet in length, and fourteen (14) feet in height, and may occupy all or any part of any required yard, except where located adjacent to any R-District, where they shall be set back a minimum of six (6) feet from such property line, except where a buffer is required.

Off-street parking and loading facilities for separate uses may be provided jointly if the total number of spaces so provided is not less than the sum of the separate requirements for each use and provided that all regulations governing the location of accessory spaces in relation to the use served are adhered to.

- g. Special Uses. It is recommended that summer camps, day camps and swimming clubs be permitted as a special use in the A-1.5 Residence District subject to special review as discussed in the regulations proposed below:

1) Special Summer Camp Use

In the A-1.5 Residence District there will be permitted summer camps, summer day camps and swimming clubs. Any of the above mentioned uses shall be consistent with, and designed to promote and benefit, the value and use of residential districts provided that:

- a) Any such development shall occupy a plot of not less than 15 acres;
- b) Not more than 10 per cent of such plot shall be occupied by buildings;
- c) The buildings upon such plot shall be set back not less than one hundred (100) feet from the nearest property line and not less than two hundred (200) feet from the nearest street line;
- d) Unenclosed recreational facilities shall be not less than one hundred (100) feet from any property except where greater distances may be required;
- e) There shall be no public address system except where such system will not be audible at any property line; and
- f) Illuminated signs and other lights are directed away or shielded from adjoining residential properties in such a way as not to disturb the occupants thereof.

## 2) Special Use Approval

Special uses shall be permitted only upon authorization by the Board of Adjustment subsequent to review by the Planning Board, provided that such uses shall be found by the Board to comply with the following requirements and other applicable requirements as set forth in this Ordinance:

- a) That the use is a permitted special use as set forth in this Ordinance.
  - b) That the use is so designed, located and proposed to be operated that the public health, safety, welfare and convenience will be protected.
  - c) That the use will not cause substantial injury to the value of other property in the neighborhood where it is to be located.
  - d) That the use will be compatible with adjoining development and the proposed character of the zone district where it is to be located.
  - e) That adequate landscaping and screening is provided.
  - f) That adequate off-street parking and loading is provided and ingress and egress is so designed as to cause minimum interference with traffic on abutting streets.
  - g) That the use conforms with all applicable regulations governing the district where located.
- h. Board of Adjustment. In order to carry out the provisions relating to special revisions, the following section is proposed under the powers of the Board:

### Approve Special Uses

The Board of Adjustment shall have original jurisdiction and power, after advisory report from the Planning Board, to grant a building permit for a special exception use which shall be so

enumerated, on a particular site in the zone where enumerated without a finding of practical difficulty or undue hardship, but subject to the criteria and safeguards set forth herein to the extent applicable and in the manner provided by law and to such other conditions and safeguards which may be imposed by the Board of Adjustment to secure the general objectives of this Ordinance and to protect adjoining properties.

- i. Enforcement. To carry out the review of special uses required by the Planning Board, the following addition to the enforcement section of the Ordinance is proposed.

1) Referral from the Board

The Board of Adjustment shall refer to the Planning Board all applications for special uses, and any other applications or appeals, which in their opinion require review by the Planning Board.

2) Criteria for Review

The Planning Board shall review such applications in accordance with applicable criteria set forth herein.

3) Report to the Board of Adjustment

The Planning Board may approve, disapprove, or approve subject to conditions, or modifications and shall report its findings to the Board of Adjustment within thirty (30) days of receipt thereof; such report shall state all recommended conditions and modifications and the reasons for such approval or disapproval.

Subdivision Ordinance

Kinnelon's present Land Subdivision Ordinance was adopted in 1959. The provisions of this Ordinance, which govern the division of land into smaller parcels and specify certain design and improvement standards where new roads are to be constructed, are adequate. Several additions to this Ordinance are recommended. They are as follows:

1. Shade Trees. It is recommended that the Planning Board be given authority to require the planting of street trees in areas which are not presently wooded or will not be wooded upon construction of streets and buildings. The following amendment is suggested:

Planting of shade trees on or near the right-of-way line may be required by the Planning Board. Shade trees shall be of a kind and size approved by the Planning Board and shall be planted at intervals of not less than 50 feet or more than 75 feet. In reviewing the need for and proper location of shade trees, the Planning Board shall give consideration to the existing and proposed wooded character of the subdivision and the possible location of future sidewalks.

2. Streets. It is recommended that the following be added to the street design standards:

- a. No subdivision showing reserve strips controlling access to streets shall be approved except where the control and disposal of land comprising such strips has been placed with the governing body under conditions approved by the Planning Board.
- b. Consideration should be given to increasing the turn-around radius of a dead-end street from 40 feet to 50 feet.
- c. Consideration should be given to reducing the maximum allowable street grade to 10 - 12 per cent.

3. Public Service Areas. It is recommended that the Planning Board be given authority to require the reservation of park or playground areas where deemed appropriate by the Planning Board. Regulations to cover this might read as follows:

Upon consideration of a proposed subdivision and determination of the needs created by such subdivision, the Board may require the reservation of land for park and playground, whether or not said park or playground is shown on the Official Map or Master Plan. Between five (5) and ten (10) per cent of the total area of a subdivision may be required to be dedicated by the Subdivider for public use. The minimum area of contiguous open space acceptable shall be three (3) acres, unless a smaller area is still desirable because of the present use or future development of abutting land. The Board shall give proper consideration to the provision by the Subdivider of open space reserved by covenants in the deeds for the common and exclusive use of all the property owners within the proposed subdivision, and maintained and operated by said owners or association of owners.

## ADOPTION OF MASTER PLAN

New Jersey statutes provide for the adoption of all or part of the Master Plan by the Planning Board following a public hearing. The Master Plan can also be amended from time to time as the need arises, but, again, only after a public hearing.

It is recommended that the Kinnelon Planning Board conduct the hearings necessary to adopt this Plan as it now stands or with the revisions which it may deem necessary.

The State statute (N. J. S. A. 40:55-1.13) provides that,

"Whenever the planning board after public hearing shall have adopted any portion of the master plan, the governing body or other public agency having jurisdiction over the subject matter, before taking action necessitating the expenditure of any public funds, incidental to the location, character or extent of one or more projects thereof, shall refer action involving such specific project or projects to the planning board for review and recommendation, and shall not act thereon without such recommendation or until forty-five days after such reference have elapsed without such recommendation. This requirement shall apply to action by a housing, parking, highway or other authority, redevelopment agency, school board or other similar public agency, federal, state, county or municipal."

The adoption of the Master Plan is important in giving formal status and recognition to the role of the Planning Board in guiding the development of the Borough. It is also important from the viewpoint of gaining widespread citizen understanding and support for the Master Plan as an explicit statement of the Borough's development goals.

Adoption does not automatically lead to effectuation of the Plan, however. The Planning Board must keep alert to changing conditions and to particular opportunities to carry out various parts of the Plan. In addition, comprehensive review and revision of the Master Plan itself will be necessary every few years.

This is what is meant by planning as a continuous process. The Master Plan is the starting point; accomplished physical development is the end result.